SEQUENCE LISTING

<110> Bergeron, Michel G.
Picard, François J.
Ouellette, Marc
Roy, Paul H.

<120> Species-Specific, Genus-Specific and Universal DNA Probes and Amplification Primers to Rapidly Detect and Identify Common Bacterial and Fungal Pathogens and Associated Antibiotic Resistance Genes from

<130> 12287.29

<140> 09/297,539
<141> 1999-05-03

<150> 08/743,637
<151> 1996-11-04 .

<160> 174

<170> PatentIn Ver. 2.1

<210> 1
<211> 22
<212> DNA
<213> Enterococcus faecium

<400> 1
tgctttagca acagcctatc ag 22

<210> 2
<211> 21
<212> DNA
<213> Enterococcus faecium

<400> 2
taaacttctt ccggcacttc g 21

<210> 3
<211> 21
<212> DNA
<213> Listeria monocytogenes

<400> 3

tgcggctata aatgaagagg c 21

<210> 4
<211> 21
<212> DNA
<213> Listeria monocytogenes

<400> 4
atccgatgat gctatggctt t 21

<210> 5
<211> 21
<212> DNA
<213> Neisseria meningitidis

<400> 5
ccagcggtat tgtttggtgg t 21

<210> 6
<211> 21
<212> DNA
<213> Neisseria meningitidis

<400> 6
caggcggcct ttaataattt c 21

<210> 7
<211> 30
<212> DNA
<213> Staphylococcus saprophyticus

<400> 7
agatcgaatt ccacatgaag gttattatga 30

<210> 8
<211> 30
<212> DNA
<213> Staphylococcus saprophyticus

<400> 8
tcgcttctcc ctcaacaatc aaactatcct 30

<210> 9
<211> 23
<212> DNA
<213> Streptococcus agalactiae

<400> 9
tttcaccagc tgtattagaa gta 23

<210> 10
<211> 23
<212> DNA
<213> Streptococcus agalactiae

<400> 10
gttccctgaa cattatcttt gat 23

<210> 11
<211> 26
<212> DNA
<213> Candida albicans

<400> 11
caagaaggtt ggttacaacc caaaga 26

<210> 12
<211> 26
<212> DNA
<213> Candida albicans

<400> 12
aggtcttacc agtaacttta ccggat 26

<210> 13
<211> 22
<212> DNA
<213> Enterococcus sp.

<400> 13
tactgacaaa ccattcatga tg 22

<210> 14
<211> 21
<212> DNA

<213> Enterococcus sp.

<400> 14
aacttcgtca ccaacgcgaa c 21

<210> 15
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 15
ctggcgcggt atggtcggtt 20

<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 16
gccgacgttg gaagtggtaa ag 22

<210> 17
<211> 25
<212> DNA
<213> Staphylococcus sp.

<400> 17
ccgtgttgaa cgtggtcaaa tcaaa 25

<210> 18
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 18

trtgtggtgt ratwgwrcca ggagc 25

<210> 19
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 19
acaacgtggw caagtwttag cwgct 25

<210> 20
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 20
accatttcwg taccttctgg taagt 25

<210> 21
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (12)
<223> i

<400> 21
gaaattgcag gnaaattgat tga 23

<210> 22
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (12)
<223> i

<400> 22
ttacgcatgg cntgactcat cat 23

<210> 23
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (3)
<223> i

<220>
<221> modified_base
<222> (6)
<223> i

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<400> 23
acnkknacng gngtngarat gtt 23

<210> 24
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (6)
<223> i

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<400> 24
ayrttntcnc cnggcatnac cat 23

<210> 25
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 25
tcgcttctcc 10

<210> 26
<211> 600

<212> DNA
<213> Enterococcus faecium

<400> 26
ttcttagaga cattgaatat gccttatgtc ggcgcaggcg tattgaccag tgcatgtgcc 60
atggataaaa tcatgaccaa gtatatttta caagctgctg gtgtgccgca agttccttat 120
gtaccagtac ttaagaatca atggaaagaa aatcctaaaa aagtatttga tcaatgtgaa 180
ggttctttgc tttatccgat gtttgtcaaa cctgcgaata tgggttctag tgtcggcatt 240
acaaaggcag aaaaccgaga agagctgcaa aatgctttag caacagccta tcagtatgat 300
tctcgagcaa tcgttgaaca aggaattgaa gcgcgcgaaa tcgaagttgc tgtattagga 360
aatgaagatg ttcggacgac tttgcctggc gaagtcgtaa aagacgtagc attctatgat 420
tatgaagcca aatatatcaa taataaaatc gaaatgcaga ttccagccga agtgccggaa 480
gaagtttatc aaaaagcgca agagtacgcg aagttagctt acacgatgtt aggtggaagc 540
ggattgagcc ggtgcgattt ctttttgaca aataaaaatg aattattcct gaatgaatta 600

<210> 27
<211> 1920
<212> DNA
<213> Listeria monocytogenes

<400> 27
gtgggattaa acagatttat gcgtgcgatg atggtggttt tcattactgc caattgcatt 60
acgattaacc ccgacataat atttgcagcg acagatagcg aagattctag tctaaacaca 120
gatgaatggg aagaagaaaa aacagaagag caaccaagcg aggtaaatac gggaccaaga 180
tacgaaactg cacgtgaagt aagttcacgt gatattaaag aactagaaaa atcgaataaa 240
gtgagaaata cgaacaaagc agacctaata gcaatgttga aagaaaaagc agaaaaaggt 300
ccaaatatca ataataacaa cagtgaacaa actgagaatg cggctataaa tgaagaggct 360
tcaggagccg accgaccagc tatacaagtg gagcgtcgtc atccaggatt gccatcggat 420
agcgcagcgg aaattaaaaa aagaaggaaa gccatagcat catcggatag tgagcttgaa 480
agccttactt atccggataa accaacaaaa gtaaataaga aaaaagtggc gaaagagtca 540
gttgcggatg cttctgaaag tgacttagat tctagcatgc agtcagcaga tgagtcttca 600
ccacaacctt taaaagcaaa ccaacaacca tttttcccta aagtatttaa aaaaataaaa 660
gatgcgggga aatgggtacg tgataaaatc gacgaaaatc ctgaagtaaa gaaagcgatt 720
gttgataaaa gtgcagggtt aattgaccaa ttattaacca aaaagaaaag tgaagaggta 780
aatgcttcgg acttcccgcc accacctacg gatgaagagt taagacttgc tttgccagag 840
acaccaatgc ttcttggttt taatgctcct gctacatcag aaccgagctc attcgaattt 900
ccaccaccac ctacggatga agagttaaga cttgctttgc cagagacgcc aatgcttctt 960
ggttttaatg ctcctgctac atcggaaccg agctcgttcg aatttccacc gcctccaaca 1020
gaagatgaac tagaaatcat ccgggaaaca gcatcctcgc tagattctag ttttacaaga 1080
ggggatttag ctagtttgag aaatgctatt aatcgccata gtcaaaattt ctctgatttc 1140
ccaccaatcc caacagaaga agagttgaac gggagaggcg gtagaccaac atctgaagaa 1200
tttagttcgc tgaatagtgg tgattttaca gatgacgaaa acagcgagac aacagaagaa 1260
gaaattgatc gcctagctga tttaagagat agaggaacag gaaaacactc aagaaatgcg 1320
ggtttttttac cattaaatcc gtttgctagc agcccggttc cttcgttaag tccaaaggta 1380
tcgaaaataa gcgaccgggc tctgataagt gacataacta aaaaaacgcc atttaagaat 1440
ccatcacagc cattaaatgt gtttaataaa aaaactacaa cgaaaacagt gactaaaaaa 1500
ccaacccctg taaagaccgc accaaagcta gcagaacttc ctgccacaaa accacaagaa 1560

accgtactta gggaaaataa aacacccttt atagaaaaac aagcagaaac aaacaagcag 1620
tcaattaata tgccgagcct accagtaatc caaaaagaag ctacagagag cgataaagag 1680
gaaatgaaac cacaaaccga ggaaaaaatg gtagaggaaa gcgaatcagc taataacgca 1740
aacggaaaaa atcgttctgc tggcattgaa gaaggaaaac taattgctaa aagtgcagaa 1800
gacgaaaaag cgaaggaaga accagggaac catacgacgt taattcttgc aatgttagct 1860
attggcgtgt tctctttagg ggcgtttatc aaaattattc aattaagaaa aaataattaa 1920

<210> 28
<211> 415
<212> DNA
<213> Neisseria meningitidis

<400> 28
taccggtacg ctaaatattg gtgatgtatt ggatattatg atttgggaag cgccgccagc 60
ggtattgttt ggtggtggcc tttcttcgat gggctcgggt agtgcgcaac aaaccaagtt 120
gccggagcaa ctggtgacgg cacgtggtac ggtttctgtg ccgtttgttg gcgatatttc 180
ggtggtcggt aaaacgcctg gtcaggttca ggaaattatt aaaggccgcc tgaaaaaaat 240
ggccaatcag ccgcaagtga tggtgcgctt ggtgcagaat aatgcggcaa atgtatcggt 300
gattcgcgca ggcaatagtg tgcgtatgcc gttgacggca gccggtgagc gtgtgttgga 360
tgcggtggct gcggtaggtg gttcaacggc aaatgtgcag gatacgaatg tgcag 415

<210> 29
<211> 438
<212> DNA
<213> Staphylococcus saprophyticus

<400> 29
tcgcttctcc agaagaaatt ttagaaacat atctagaaaa tcccaaatta gataaaccgt 60
ttatattatg tgaatacgca catgcaatgg gaaattcacc aggagatctt aatgcatatc 120
aaacattaat tgaaaaatat gatagtttta ttggcggttt tgtttgggaa tggtgtgatc 180
atagcattca ggttgggata aaggaaggta aaccaatttt tagatatggt ggagattttg 240
gtgaggcctt acatgacggt aatttttgtg ttgatggtat tgtttcgcca gatcgaattc 300
cacatgaagg ttattatgag tttaaacatg aacatagacc tttgagattg gttaacgaag 360
aggattatcg gtttacattg aagaatcaat ttgattttac aaatgcggag gatagtttga 420
ttgttgaggg agaagcga 438

<210> 30
<211> 768
<212> DNA
<213> Streptococcus agalactiae

<400> 30
atgaacgtta cacatatgat gtatctatct ggaactctag tggctggtgc attgttattt 60
tcaccagctg tattagaagt acatgctgat caagtgacaa ctccacaagt ggtaaatcat 120
gtaaatagta ataatcaagc ccagcaaatg gctcaaaagc ttgatcaaga tagcattcag 180

ttgagaaata tcaaagataa tgttcaggga acagattatg aaaaaccggt taatgaggct 240
attactagcg tggaaaaatt aaagacttca ttgcgtgcca accctgagac agtttatgat 300
ttgaattcta ttggtagtcg tgtagaagcc ttaacagatg tgattgaagc aatcactttt 360
tcaactcaac atttaacaaa taaggttagt caagcaaata ttgatatggg atttgggata 420
actaagctag ttattcgcat tttagatcca tttgcttcag ttgattcaat taaagctcaa 480
gttaacgatg taaaggcatt agaacaaaaa gttttaactt atcctgattt aaaaccaact 540
gatagagcta ccatctatac aaaatcaaaa cttgataagg aaatctggaa tacacgcttt 600
actagagata aaaaagtact taacgtcaaa gaatttaaag tttacaatac tttaaataaa 660
gcaatcacac atgctgttgg agttcagttg aatccaaatg ttacggtaca acaagttgat 720
caagagattg taacattaca agcagcactt caaacagcat taaaataa 768

<210> 31
<211> 421
<212> DNA
<213> Neisseria meningitidis

<400> 31
atgaaagtag gtttcgtcgg ctggcgcggt atggtcggtt cggttttgat gcagcgtatg 60
aaagaagaaa acgacttcgc ccacattccc gaagcgtttt tctttaccac ttccaacgtc 120
ggcggcgcac gccctgattt cggtcaggcg gctaaaacat tattggacgc gaacaacgtt 180
gccgagctgg caaaaatgga catcatcgtt acctgccaag gcggcgacta caccaaatcc 240
gtcttccaag ccctgcgcga cagcggctgg aacggctact ggattgacgc ggcatcctcg 300
ctgcgtatga aagacgacgc gattatcgtc ctcgaccccg tcaaccgcaa cgtcatcgac 360
aacggcctca aaaacggcgt gaaaaactac atcggcggca actgtaccgt ttccctgatg 420
c 421

<210> 32
<211> 213
<212> DNA
<213> Streptococcus gordonii

<400> 32
ttcatagacg ctgagcacgc tttggatcca tcttacgcgg ctgctctagg tgtaaatatt 60
gatgagctgt tgctatctca accagattct ggtgagcaag gtttagaaat tgcaggaaaa 120
ttgattgact ctggggcagt tgatttagtt gtcatcgact ctgttgcagc tcttgtacca 180
cgtgcggaaa tcgatggaga tatcggtgat agc 213

<210> 33
<211> 692
<212> DNA
<213> Streptococcus mutans

<400> 33
gggccggaat cttctggtaa gacaactgtc gctcttcatg ctgctgctca ggcgcaaaaa 60
gatggcggta ttgccgcttt cattgatgca gaacatgccc ttgatccagc ctatgctgct 120

gctcttggcg ttaatattga tgagcttttg ctttcacaac cagattcagg agaacagggt 180
cttgaaattg cagggaaatt gattgattct ggcgctgttg atttagttgt tgttgactca 240
gtggcagctt tagtaccacg tgcggagatt gacggagata ttggtaatag tcatgttggc 300
ttacaagcac gcatgatgag tcaagcgatg cgtaaattat cagcttcaat caataaaaca 360
aaaaccattg ctatttttat taatcaattg cgggaaaaag ttggtattat gtttggtaat 420
ccagaaacaa cccctggcgg gcgtgccttg aagttttatt cttctgtgcg tcttgatgtc 480
cgcggcaata ctcaaattaa aggaaccggg gaacaaaaag acagcaatat tggtaaagag 540
accaaaatta aagttgttaa aaataaagtt gctccaccat ttaaggaagc ttttgtagaa 600
attatatatg gtgaaggcat ttctcgtaca ggtgaattag ttaagattgc cagtgatttg 660
ggaattatcc aaaaagctgg agcttggtac tc 692

<210> 34
<211> 1204
<212> DNA
<213> Streptococcus pneumoniae

<400> 34
atggcgaaaa aaccaaaaaa attagaagaa atttcaaaaa aatttggggc agaacgtgaa 60
aaggccttga atgacgctct taaattgatt gagaaagact ttggtaaagg atcaatcatg 120
cgtttgggtg aacgtgcgga gcaaaaggtg caagtgatga gctcaggttc tttagctctt 180
gacattgccc ttggctcagg tggttatcct aagggacgta tcatcgaaat ctatggccca 240
gagtcatctg gtaagacaac ggttgccctt catgcagttg cacaagcgca aaaagaaggt 300
gggattgctg cctttatcga tgcggaacat gcccttgatc cagcttatgc tgcggccctt 360
ggtgtcaata ttgacgaatt gctcttgtct caaccagact caggagagca aggtcttgag 420
attgcgggaa aattgattga ctcaggtgca gttgatcttg tcgtagtcga ctcagttgct 480
gcccttgttc ctcgtgcgga aattgatgga gatatcggag atagccatgt tggtttgcag 540
gctcgtatga tgagccaggc catgcgtaaa cttggcgcct ctatcaataa aaccaaaaca 600
attgccattt ttatcaacca attgcgtgaa aaagttggag tgatgtttgg aaatccagaa 660
acaacaccgg gcggacgtgc tttgaaattc tatgcttcag tccgcttgga tgttcgtggt 720
aatacacaaa ttaagggaac tggtgatcaa aaagaaacca atgtcggtaa agaaactaag 780
attaaggttg taaaaaataa ggtagctcca ccgtttaagg aagccgtagt tgaaattatg 840
tacggagaag gaatttctaa gactggtgag cttttgaaga ttgcaagcga tttggatatt 900
atcaaaaaag caggggcttg gtattcttac aaagatgaaa aaattgggca aggttctgag 960
aatgctaaga aatacttggc agagcaccca gaaatctttg atgaaattga taagcaagtc 1020
cgttctaaat ttggcttgat tgatggagaa gaagtttcag aacaagatac tgaaaacaaa 1080
aaagatgagc caaagaaaga agaagcagtg aatgaagaag ttccgcttga cttaggcgat 1140
gaacttgaaa tcgaaattga agaataagct gttaaagcag tggagaaatc cgctactttt 1200
tcga 1204

<210> 35
<211> 981
<212> DNA
<213> Streptococcus pyogenes

<400> 35
atgcgttcag gaagtctagc tcttgatatt gcttggatag ctggtggtta tcctaaagga 60

cgtatcatcg aaatctatgg tccagagtct tccggtaaaa cgactgtggc tttacatgct 120
gtagcacaag ctcaaaaaga aggtggaatc gcagccttta tcgatgccga gcatgcgctt 180
gatccagctt atgctgctgc gcttggggtt aatattgatg aacttctctt gtctcaacca 240
gattctggag aacaaggact tgaaattgca ggtaaattga ttgattctgg tgcggttgac 300
ctggttgttg tcgattcagt agcagcttta gtgccacgtg ctgaaattga tggtgatatt 360
ggcgatagcc atgtcggatt gcaagcacgt atgatgagtc aggccatgcg taaattatca 420
gcttctatta ataaaacaaa aactatcgca atctttatca accaattgcg tgaaaaagtt 480
ggtgtgatgt ttggaaatcc tgaaacaaca ccaggtggtc gagctttgaa attctatgct 540
tctgttcggc tggatgtgcg tggaaacaac caaattaaag gaactggtga ccaaaagata 600
gccagcattg gtaaggagac caaaatcaag gttgttaaaa acaaggtcgc tccgccattt 660
aaggtagcag aagttgaaat catgtatggg gaaggtattt ctcgtacagg ggagcttgtg 720
aaaattgctt ctgatttgga cattatccaa aaagcaggtg cttggttctc ttataatggt 780
gagaagattg gccaaggttc tgaaaatgct aagcgttatt tggccgatca tccacaattg 840
tttgatgaaa tcgaccgtaa agtacgtgtt aaatttggtt tgcttgaaga aagcgaagaa 900
gaatctgcta tggcagtagc atcagaagaa accgatgatc ttgctttaga tttagataat 960
ggtattgaaa ttgaagatta a 981

<210> 36
<211> 312
<212> DNA
<213> Streptococcus salivarius

<400> 36
gcgtatgcac gagctctagg tgttaatatc gatgagcttc ttttgtcgca gcctgattct 60
ggtgagcaag gtctcgaaat tgcaggtaag ctgattgact ctggtgcagt ggatttagtt 120
gttgttgact cagttgcggc cttcgtacca cgtgcagaaa ttgatggaga tagtggtgac 180
agtcatgtag gacttcaagc gcgtatgatg agtcaagcca tgcgtaaact ttctgcatct 240
attaataaaa caaaaacgat tgctatcttt attaaccagt tgcgtgaaaa agttggtatc 300
atgtttggta ac 312

<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 37
ctatgtggcg cggtattatc 20

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 38
cgcagtgtta tcactcatgg 20

<210> 39
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 39
ctgaatgaag ccataccaaa 20

<210> 40
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 40
atcagcaata aaccagccag 20

<210> 41
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 41
ttaccatgag cgataacagc 20

<210> 42
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 42
ctcattcagt tccgtttccc 20

<210> 43
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 43
cagctgctgc agtggatggt 20

<210> 44
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 44
cgctctgctt tgttattcgg 20

<210> 45
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 45
tacgccaaca tcgtggaaag 20

<210> 46
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 46
ttgaatttgg cttcttcggt 20

<210> 47
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 47
gggatacaga aacgggacat 20

<210> 48
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 48
taaatctttt tcaggcagcg 20

<210> 49
<211> 25
<212> DNA
<213> Escherichia coli

<400> 49
gatggtttga agggtttatt ataag 25

<210> 50
<211> 25
<212> DNA
<213> Escherichia coli

<400> 50
aatttagtgt gtttagaatg gtgat 25

<210> 51
<211> 21
<212> DNA
<213> Enterococcus faecalis

<400> 51
acttcaacac ctgctgcttt c 21

<210> 52
<211> 21
<212> DNA
<213> Enterococcus faecalis

<400> 52
tgaccacttt tatcagcaac c 21

<210> 53
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 53
ggcaatagtt gaaatgctcg 20

<210> 54
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 54
cagctgttac aacggactgg 20

<210> 55
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 55
tctatgatct cgcagtctcc 20

<210> 56
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 56
atcgtcaccg taatctgctt 20

<210> 57
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 57
cattctcgat tgctttgcta 20

<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 58
ccgaaatgct tctcaagata 20

<210> 59
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 59
ctggattatg gctacggagt 20

<210> 60
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 60
agcagtgtga tggtatccag 20

<210> 61
<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 61
gactcttgat gaagtgctgg 20

<210> 62
<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 62
ctggtctatt cctcgcactc 20

<210> 63
<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 63
tatgagaagg caggattcgt 20

<210> 64

<211> 20
<212> DNA
<213> Pseudomonas aeruginosa

<400> 64
gctttctctc gaaggcttgt 20

<210> 65
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 65
gagttgctgt tcaatgatcc 20

<210> 66
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 66
gtgtttgaac catgtacacg 20

<210> 67
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 67
tgtagaggtc tagcccgtgt 20

<210> 68
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 68
acggggataa cgactgtatg 20

<210> 69
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 69
ataaagatga taggccggtg 20

<210> 70
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 70
tgctgtcata ttgtcttgcc 20

<210> 71
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 71
attatcttcg gcggttgctc 20

<210> 72
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 72
gactatcggc ttcccattcc 20

<210> 73
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 73
cgatagaagc agcaggacaa 20

<210> 74
<211> 20
<212> DNA
<213> Enterococcus faecalis

<400> 74
ctgatggatg cggaagatac 20

<210> 75
<211> 21
<212> DNA
<213> Enterococcus gallinarum

<400> 75
gccttatgta tgaacaaatg g 21

<210> 76
<211> 23
<212> DNA
<213> Enterococcus gallinarum

<400> 76
gtgactttwg tgatcccttt tga 23

<210> 77
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 77
tccaatcatt gcacaaaatc 20

<210> 78
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 78
aattccctct atttggtggt 20

<210> 79
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 79
tcccaagcca gtaaagctaa 20

<210> 80
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 80
tggtttttca acttcttcca 20

<210> 81
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 81
tcatagaatg gatggctcaa 20

<210> 82
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 82
agctactatt gcaccatccc 20

<210> 83
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 83
caataagggc ataccaaaaa tc 22

<210> 84
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 84
ccttaacatt tgtggcatta tc 22

<210> 85
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 85
ttgggaagat gaagttttta ga 22

<210> 86
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 86
cctttactcc aataatttgg ct 22

<210> 87
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 87
tttcatctat tcaggatggg 20

<210> 88
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 88
ggagcaacat tctttgtgac 20

<210> 89
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 89
tgtgcctgaa gaaggtattg 20

<210> 90
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 90
cgtgttactt caccaccact 20

<210> 91
<211> 23
<212> DNA
<213> Staphylococcus aureus

<400> 91
tatcttatcg ttgagaaggg att 23

<210> 92
<211> 22
<212> DNA
<213> Staphylococcus aureus

<400> 92
ctacacttgg cttaggatga aa 22

<210> 93
<211> 24
<212> DNA
<213> Escherichia coli

<400> 93
ctatctgatt gttgaagaag gatt 24

<210> 94
<211> 24
<212> DNA
<213> Escherichia coli

<400> 94
gtttactctt ggtttaggat gaaa 24

<210> 95
<211> 22
<212> DNA
<213> Staphylococcus aureus

<400> 95
cttgttgatc acgataattt cc 22

<210> 96
<211> 22
<212> DNA
<213> Staphylococcus aureus

<400> 96
atcttttagc aaacccgtat tc 22

<210> 97
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 97
aacaggtgaa ttattagcac ttgtaag 27

<210> 98
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 98
attgctgtta atatttttttg agttgaa 27

<210> 99
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 99
gtgatcgaaa tccagatcc 19

<210> 100
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 100
atcctcggtt ttctggaag 19

<210> 101
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 101
ctggtcatac atgtgatgg 19

<210> 102
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 102
gatgttaccc gagagcttg 19

<210> 103
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 103
ttaagcgtgc ataataagcc 20

<210> 104
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 104
ttgcgattac ttcgccaact 20

<210> 105
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 105
tttactaagc ttgccccttc 20

<210> 106
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 106
aaaaggcagc aattatgagc 20

<210> 107
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<220>
<221> modified_base
<222> (21)
<223> i

<400> 107
aayatgatna cnggngcngc ncaratgga 29

<210> 108
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (3)
<223> i

<220>
<221> modified_base

<222> (6)
<223> i

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<400> 108
ccnacngtnc knccrccytc rcg 23

<210> 109
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (6)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<400> 109
carytnathg tngcngtnaa yaaratgga 29

<210> 110
<211> 831
<212> DNA
<213> Escherichia coli

<400> 110
atgaaaaaca caatacatat caacttcgct atttttttaa taattgcaaa tattatctac 60
agcagcgcca gtgcatcaac agatatctct actgttgcat ctccattatt tgaaggaact 120
gaaggttgtt ttttacttta cgatgcatcc acaaacgctg aaattgctca attcaataaa 180
gcaaagtgtg caacgcaaat ggcaccagat tcaactttca agatcgcatt atcacttatg 240
gcatttgatg cggaaataat agatcagaaa accatattca aatgggataa aacccccaaa 300
ggaatggaga tctggaacag caatcataca ccaaagacgt ggatgcaatt ttctgttgtt 360
tgggtttcgc aagaaataac ccaaaaaatt agattaaata aaatcaagaa ttatctcaaa 420
gattttgatt atggaaatca agacttctct ggagataaag aaagaaacaa cggattaaca 480
gaagcatggc tcgaaagtag cttaaaaatt tcaccagaag aacaaattca attcctgcgt 540
aaaattatta atcacaatct cccagttaaa aactcagcca tagaaaacac catagagaac 600
atgtatctac aagatctgga taatagtaca aaactgtatg ggaaaactgg tgcaggattc 660
acagcaaata gaaccttaca aaacggatgg tttgaagggt ttattataag caaatcagga 720
cataaatatg tttttgtgtc cgcacttaca ggaaacttgg ggtcgaattt aacatcaagc 780
ataaaagcca agaaaaatgc gatcaccatt ctaaacacac taaatttata a 831

<210> 111
<211> 846
<212> DNA
<213> Enterococcus faecalis

<400> 111
ttgaaaaagt taatattttt aattgtaatt gctttagttt taagtgcatg taattcaaac 60
agttcacatg ccaaagagtt aaatgattta gaaaaaaaat ataatgctca tattggtgtt 120
tatgctttag atactaaaag tggtaaggaa gtaaaattta attcagataa gagatttgcc 180
tatgcttcaa cttcaaaagc gataaatagt gctattttgt tagaacaagt accttataat 240
aagttaaata aaaaagtaca tattaacaaa gatgatatag ttgcttattc tcctatttta 300
gaaaaatatg taggaaaaga tatcacttta aaagcactta ttgaggcttc aatgacatat 360
agtgataata cagcaaacaa taaaattata aaagaaatcg gtggaatcaa aaaagttaaa 420
caacgtctaa aagaactagg agataaagta acaaatccag ttagatatga gatagaatta 480
aattactatt caccaaagag caaaaaagat acttcaacac ctgctgcttt cggtaagact 540
ttaaataaac ttatcgcaaa tggaaaatta agcaaagaaa acaaaaaatt cttacttgat 600
ttaatgttaa ataataaaag cggagatact ttaattaaag acggtgttcc aaaagactat 660
aaggttgctg ataaaagtgg tcaagcaata acatatgctt ctagaaatga tgttgctttt 720
gtttatccta agggccaatc tgaacctatt gttttagtca tttttacgaa taaagacaat 780
aaaagtgata agccaaatga taagttgata agtgaaaccg ccaagagtgt aatgaaggaa 840
ttttaa 846

<210> 112
<211> 555

<212> DNA
<213> Pseudomonas aeruginosa

<400> 112
atgtccgcga gcacccccc cataactctt cgcctcatga ccgagcgcga cctgccgatg 60
ctccatgact ggctcaaccg gccgcacatc gttgagtggt ggggtggcga cgaagagcga 120
ccgactcttg atgaagtgct ggaacactac ctgcccagag cgatggcgga agagtccgta 180
acaccgtaca tcgcaatgct gggcgaggaa ccgatcggct atgctcagtc gtacgtcgcg 240
ctcggaagcg gtgatggctg gtgggaagat gaaactgatc caggagtgcg aggaatagac 300
cagtctctgg ctgacccgac acagttgaac aaaggcctag gaacaaggct tgtccgcgct 360
ctcgttgaac tactgttctc ggaccccacc gtgacgaaga ttcagaccga cccgactccg 420
aacaaccatc gagccatacg ctgctatgag aaggcaggat tcgtgcggga gaagatcatc 480
accacgcctg acgggccggc ggtttacatg gttcaaacac gacaagcctt cgagagaaag 540
cgcggtgttg cctaa 555

<210> 113
<211> 732
<212> DNA
<213> Staphylococcus aureus

<400> 113
atgaaccaga aaaaccctaa agacacgcaa aattttatta cttctaaaaa gcatgtaaaa 60
gaaatattga atcacacgaa tatcagtaaa caagacaacg taatagaaat cggatcagga 120
aaaggacatt ttaccaaaga gctagtcaaa atgagtcgat cagttactgc tatagaaatt 180
gatggaggct tatgtcaagt gactaaagaa gcggtaaacc cctctgagaa tataaaagtg 240
attcaaacgg atattctaaa attttccttc ccaaaacata taaactataa gatatatggt 300
aatattcctt ataacatcag tacggatatt gtcaaaagaa ttacctttga aagtcaggct 360
aaatatagct atcttatcgt tgagaaggga tttgcgaaaa gattgcaaaa tctgcaacga 420
gctttgggtt tactattaat ggtggagatg gatataaaaa tgctcaaaaa agtaccacca 480
ctatattttc atcctaagcc aagtgtagac tctgtattga ttgttcttga acgacatcaa 540
ccattgattt caaagaagga ctacaaaaag tatcgatctt ttgtttataa gtgggtaaac 600
cgtgaatatc gtgttctttt cactaaaaac caattccgac aggctttgaa gcatgcaaat 660
gtcactaata ttaataaact atcgaaggaa caatttcttt ctattttcaa tagttacaaa 720
ttgtttcact aa 732

<210> 114
<211> 738
<212> DNA
<213> Escherichia coli

<400> 114
atgaacaaaa atataaaata ttctcaaaac tttttaacga gtgaaaaagt actcaaccaa 60
ataataaaac aattgaattt aaaagaaacc gataccgttt acgaaattgg aacaggtaaa 120
gggcatttaa cgacgaaact ggctaaaata agtaaacagg taacgtctat tgaattagac 180
agtcatctat tcaacttatc gtcagaaaaa ttaaaatcga atactcgtgt cactttaatt 240
caccaagata ttctacagtt tcaattccct aacaaacaga ggtataaaat tgttgggaat 300

attccttacc atttaagcac acaaattatt aaaaaagtgg tttttgaaag ccatgcgtct 360
gacatctatc tgattgttga agaaggattc tacaagcgta ccttggatat tcaccgaaca 420
ctagggttgc tcttgcacac tcaagtctcg attcagcaat tgcttaagct gccagcggaa 480
tgctttcatc ctaaaccaag agtaaacagt gtcttaataa aacttacccg ccataccaca 540
gatgttccag ataaatattg gaagctatat acgtactttg tttcaaaatg ggtcaatcga 600
gaatatcgtc aactgtttac taaaaatcag tttcatcaag caatgaaaca cgccaaagta 660
aacaatttaa gtaccgttac ttatgagcaa gtattgtcta tttttaatag ttatctatta 720
tttaacggga ggaaataa 738

<210> 115
<211> 735
<212> DNA
<213> Staphylococcus aureus

<400> 115
atgaacgaga aaaatataaa acacagtcaa aactttatta cttcaaaaca taatatagat 60
aaaataatga caaatataag attaaatgaa catgataata tctttgaaat cggctcagga 120
aaagggcatt ttacccttga attagtacag aggtgtaatt tcgtaactgc cattgaaata 180
gaccataaat tatgcaaaac tacagaaaat aaacttgttg atcacgataa tttccaagtt 240
ttaaacaagg atatattgca gtttaaattt cctaaaaacc aatcctataa aatatttggt 300
aatatacctt ataacataag tacggatata atacgcaaaa ttgtttttga tagtatagct 360
gatgagattt atttaatcgt ggaatacggg tttgctaaaa gattattaaa tacaaaacgc 420
tcattggcat tatttttaat ggcagaagtt gatatttcta tattaagtat ggttccaaga 480
gaatattttc atcctaaacc tagagtgaat agctcactta tcagattaaa tagaaaaaaa 540
tcaagaatat cacacaaaga taaacagaag tataattatt tcgttatgaa atgggttaac 600
aaagaataca agaaaatatt tacaaaaaat caatttaaca attccttaaa acatgcagga 660
attgacgatt taaacaatat tagctttgaa caattcttat ctcttttcaa tagctataaa 720
ttatttaata agtaa 735

<210> 116
<211> 1029
<212> DNA
<213> Enterococcus faecalis

<400> 116
atgaataaaa taaaagtcgc aattatcttc ggcggttgct cggaggaaca tgatgtgtcg 60
gtaaaatccg caatagaaat tgctgcgaac attaatactg aaaaattcga tccgcactac 120
atcggaatta caaaaaacgg cgtatggaag ctatgcaaga agccatgtac ggaatgggaa 180
gccgatagtc tccccgccat attctccccg gataggaaaa cgcatggtct gcttgtcatg 240
aaagaaagag aatacgaaac tcggcgtatt gacgtggctt tcccggtttt gcatggcaaa 300
tgcggggagg atggtgcgat acagggtctg tttgaattgt ctggtatccc ctatgtaggc 360
tgcgatattc aaagctccgc agcttgcatg gacaaatcac tggcctacat tcttacaaaa 420
aatgcgggca tcgccgtccc cgaatttcaa atgattgaaa aaggtgacaa accggaggcg 480
aggacgctta cctaccctgt ctttgtgaag ccggcacggt caggttcgtc ctttggcgta 540
accaaagtaa acagtacgga agaactaaac gctgcgatag aagcagcagg acaatatgat 600
ggaaaaatct taattgagca agcgatttcg ggctgtgagg tcggctgcgc ggtcatggga 660

aacgaggatg atttgattgt cggcgaagtg gatcaaatcc ggttgagcca cggtatcttc 720
cgcatccatc aggaaaacga gccggaaaaa ggctcagaga atgcgatgat tatcgttcca 780
gcagacattc cggtcgagga acgaaatcgg gtgcaagaaa cggcaaagaa agtatatcgg 840
gtgcttggat gcagagggct tgctcgtgtt gatctttttt tgcaggagga tggcggcatc 900
gttctaaacg aggtcaatac cctgcccggt tttacatcgt acagccgcta tccacgcatg 960
gcggctgccg caggaatcac gcttcccgca ctaattgaca gcctgattac attggcgata 1020
gagaggtga 1029

<210> 117
<211> 1031
<212> DNA
<213> Enterococcus gallinarum

<400> 117
atgaaaaaaa ttgccgtttt atttggaggg aattctccag aatactcagt gtcactaacc 60
tcagcagcaa gtgtgatcca agctattgac ccgctgaaat atgaagtaat gaccattggc 120
atcgcaccaa caatggattg gtattggtat caaggaaacc tcgcgaatgt tcgcaatgat 180
acttggctag aagatcacaa aaactgtcac cagctgactt tttctagcca aggatttata 240
ttaggagaaa aacgaatcgt ccctgatgtc ctctttccag tcttgcatgg gaagtatggc 300
gaggatggct gtatccaagg actgcttgaa ctaatgaacc tgccttatgt tggttgccat 360
gtcgctgcct ccgcattatg tatgaacaaa tggctcttgc atcaacttgc tgataccatg 420
ggaatcgcta gtgctcccac tttgctttta tcccgctatg aaaacgatcc tgccacaatc 480
gatcgtttta ttcaagacca tggattcccg atctttatca agccgaatga agccggttct 540
tcaaaaggga tcacaaaagt aactgacaaa acagcgctcc aatctgcatt aacgactgct 600
tttgcttacg gttctactgt gttgatccaa aaggcgatag cgggtattga aattggctgc 660
ggcatcttag gaaatgagca attgacgatt ggtgcttgtg atgcgatttc tcttgtcgac 720
ggtttttttg attttgaaga gaaataccaa ttaatcagcg ccacgatcac tgtcccagca 780
ccattgcctc tcgcgcttga atcacagatc aaggagcagg cacagctgct ttatcgaaac 840
ttgggattga cgggtctggc tcgaatcgat tttttcgtca ccaatcaagg agcgatttat 900
ttaaacgaaa tcaacaccat gccgggattt actgggcact cccgctaccc agctatgatg 960
gcggaagtcg ggttatccta cgaaatatta gtagagcaat tgattgcact ggcagaggag 1020
gacaaacgat g 1031

<210> 118
<211> 809
<212> DNA
<213> Abiotrophia adiacens

<400> 118
tggtgctatc ttagtagtat ctgcagctga tggtccaatg cctcaaacac gtgaacacat 60
cttattatca cgtcaagtag gtgttcctta catcgttgta ttcttaaaca aagttgacat 120
ggttgacgat gaagaattat tagaattagt agaaatggaa gttcgtgact tattatcaga 180
atacgatttc ccaggcgatg acactccagt tgttgcaggt tctgctttac gcgctttaga 240
aggcgacgct tcatacraag aaaaaatctt agaattaatg gctgctgttg acgaatacat 300
tccaactcca gaacgygacg ttgacaaacc attcatgatg ccagttgaag acgtgttctc 360
aatcacaggt cgtggtactg ttgctacagg tcgtgttgaa cgtggacaag ttcgtgttgg 420

tgacgaagtt gaaatcgttg gtatttcaga agaaacttca aaaacaactg taactggtgt 480
tgaaatgttc cgtaaattgt tagactacgc tgaagcaggg gataacattg gtacattatt 540
acgtggtgtt acacgtgaca acatcgaacg tggacaagtt cttgctaaac caggaacaat 600
cactccacat actaaattca aagctgaagt ttacgtatta actaaagaag aaggtggacg 660
tcatactcca ttcttctcta actaccgtcc tcaattctac ttccgtacaa cagacatcac 720
tggtgtttgt gtgttaccag aaggcgttga aatggtaatg cctggtgata acgtaactat 780
ggaagttgaa ttaattcacc cagtagcga 809

<210> 119
<211> 817
<212> DNA
<213> Abiotrophia defectiva

<400> 119
cggcgcgatc ctcgttgtat ctgctgctga cggcccaatg ccacaaactc gtgaacacat 60
cctcttgtct cgtcaagttg gtgttcctta catcgtagta ttcttgaaca aagttgacat 120
ggttgacgac gaagaattgc tcgaattagt tgaaatggaa gttcgtgacc tcttgtctga 180
atacgacttc ccaggcgacg acactccagt tatcgctggt tcagctttga aagctttaga 240
aggcgacgct aactacgaag ctaaagtttt agaattgatg gaacaagttg atgcttacat 300
tccagaacca gaacgtgaca ctgacaagcc attcatgatg ccagtcgaag acgtattctc 360
tatcactggt cgtggtactg ttgcaactgg tcgtgttgaa cgtggtcaag ttcgcgttgg 420
tgacgaagtt gaaatcgttg gtatcgaaga agaaacttct aagactaccg ttaccggtgt 480
tgaaatgttc cgtaagttat tggattacgc tgaagctggg gacaacgttg gtaccttgtt 540
acgtggtgta actcgtgacc aaatccaacg tggtcaagta ttatctaaac caggttcaat 600
cactccgyac actaagttcg aagctgaagt gtacgtattg tctaaagaag aaggtggtcg 660
tcacactcca ttcttctcta actaccgtcc acaattctac ttccgtacaa ctgacgtaac 720
tggtgttgtt actttaccag aaggtactga aatggttatg ccaggcgaca acgtacaaat 780
ggttgttgaa ttgatccacc caatcgcgat cgaagaa 817

<210> 120
<211> 754
<212> DNA
<213> Candida albicans

<400> 120
ctctgtcaaa tgggacaaaa acagatttga agaaatcatc aaggaaacct ccaacttcgt 60
caagaaggtt ggttacaacc caaagactgt tccattcgtt ccaatctctg gttggaatgg 120
tgacaacwtg attgaascat ccaccaactg tccatggtac aagggttggg aaaaggaaac 180
caaatccggt aaagttactg gtaagacctt gttagaagct attgacgcta ttgaaccacc 240
aaccagacca accgacaaac cattgagatt gccattrcaa gatgtttaca agatcggtgg 300
tattggtact gtgccagtcg gtagagttga aactggtatc atcaaagccg gtatggtwgt 360
tactttcgcc ccagctggtg ttaccactga agtcaartcc gttgaaatgc atcacgaaca 420
attggctgaa ggtgttccag gtgacaatgt trgtttcaac gttaagaacr tttccgttaa 480
agaaattaga agaggtaacg tttgtggtga ctccaagaac gatccaccaa agggttgtga 540
ctctttcaat gcccaagtca ttgttttgaa ccatccaggt caaatctctg ctggttactc 600
tccagtcttg gattgtcacr ctgcccacat tgcttgtaaa ttcgacrctt tggttgaaaa 660

gattgacaga agaactggta agraattgga agaaaatcca aaattcgtca aatccggtga 720
tgctgctatc gtcaagatgg tcccaaccaa acca 754

<210> 121
<211> 753
<212> DNA
<213> Candida glabrata

<400> 121
tctgtcaagt gggatgaatc cagattcgct gaaatcgtta aggaaacctc caacttcatc 60
aagaaggtcg gttacaaccc aaagactgtt ccattcgtcc caatctctgg ttggaacggt 120
gacaacatga ttgaagccac caccaacgct tcctggtaca agggttggga aaaggaaacc 180
aaggctggtg tcgtcaaggg taagaccttg ttggaagcca ttgacgctat cgaaccacca 240
accagaccaa ctgacaagcc attgagattg ccattgcaag atgtctacaa gatcggtggt 300
atcggtacgg tgccagtcgg tagagtcgaa accggtgtca tcaagccagg tatggttgtt 360
accttcgccc cagctggtgt taccactgaa gtcaagtccg ttgaaatgca ccacgaacaa 420
ttgactgaag gtttgccagg tgacaacgtt ggtttcaacg ttaagaacgt ttccgttaag 480
gaaatcagaa gaggtaatgt ctgtggtgac tccaagaacg acccaccaaa ggctgctgct 540
tctttcaacg ctaccgtcat tgtcttgaac cacccaggtc aaatctctgc tggttactct 600
ccagttttgg actgtcacac cgcccacatt gcttgtaagt tcgaagaatt gttggaaaag 660
aacgacagaa gatccggtaa gaagttggaa gactctccaa agttcttgaa gtccggtgac 720
gctgctttgg ttaagttcgt tccatccaag cca 753

<210> 122
<211> 752
<212> DNA
<213> Candida kruisii

<400> 122
ccgttaagtg ggatgaaaac agatttgaag aaattgtcaa ggaaacccaa aacttcatca 60
agaaggttgg ttacaaccca aagactgttc cattcgttcc aatctctggt tggaatggtg 120
acaacatgat tgaagcatcc accaactgtc catggtacaa gggttggact aaggaaacca 180
aggcaggtgt tgttaagggt aagaccttat tagaagcaat cgatgctatt gaaccacctg 240
tcagaccaac cgaaaagcca ttaagattac cattacaaga tgtttacaag attggtggta 300
ttggtactgt gccagtcggt agagtcgaaa ccggtgtcat taagccaggt atggttgtca 360
cttttgctcc agcaggtgtc accaccgaag tcaaatccgt tgaaatgcac catgaacaat 420
tagaacaagg tgttccaggt gataacgttg gtttcaacgt taagaacgty tctgtcaagg 480
atatcaagag aggtaacgtt tgtggtgact ccaagaacga cccaccaatg ggtgcagctt 540
ctttcaatgc tcaagtcatt gtcttgaacc accctggtca aatttccgct ggttactctc 600
cagtcttgga ttgtcacact gcccacattg catgtaagtt cgacgaatta atcgaaaaga 660
ttgacagaag aactggtaag tctgttgaag accatccaaa gtcygtcaag tctggtgatg 720
cagctatcgt caagatggtc ccaaccaagc ca 752

<210> 123
<211> 754

<212> DNA
<213> Candida parapsilosis

<400> 123
ctcagtcaaa tgggacaaga rcagatacga agaaattgtc aaggaaactt ccaacttcgt 60
caagaaggtt ggttacaacc ctaaagctgt cccattcgtc ccaatctctg gttggaacgg 120
tgacaatatg attgaaccat caaccaactg tccatggtac aagggttggg aaaaggaaac 180
taaagctggt aaggttaccg gtaagacctt gttggaagct atcgatgcta tcgarccacc 240
aaccagacca actgacaagc cattgagatt gccattgcaa gatgtctaca agattggtgg 300
tattggaact gtgccagttg gtagagttga aaccggtatc atcaaggctg gtatggttgt 360
tacttttgcc ccagctggtg ttaccactga agtcaagtcc gttgaaatgc accacgaaca 420
attgactgaa ggtgtcccag gtgacaatgt tggtttcaac gtcaagaacg tttcagttaa 480
ggaaatcaga agaggtaacg tytgtggtga ctccaagaac gatccaccaa agggatgtga 540
ytccttcaat gctcaagtta ttgtcttgaa ccacccaggt caaatctctg ctggttactc 600
accagtcttg gattgtcaca ctgcccacat tgcttgtaaa ttcgacactt tgattgaaaa 660
gattgacaga agaaccggta agaaattgga agwtgaacca aaattcatca agtccggtga 720
tgctgcyatc gtcaagatgg tcccaaccaa gcca 754

<210> 124
<211> 753
<212> DNA
<213> Candida tropicalis

<400> 124
tctgttaaat gggacaaraa cagatttgaa gaaattatca aggaaacytc taacttcgtc 60
aagaaggttg gttacaaccc taaggctgtt ccattcgttc caatctcwgg ttggaatggt 120
gacaacatga ttgaagcttc taccaactgt ccatggtaca agggttggga aaaagaaacc 180
aaggctggta aggttaccgg taagactttg ttggaagcca ttgatgctat tgaaccacct 240
tcaagaccaa ctgacaagcc attgagattg ccattgcaag atgtttacaa gattggtggt 300
attggtactg tgccagtcgg tagagttgaa actggtgtca tcaaagccgg tatggttgtt 360
actttygccc cagctggtgt taccactgaa gtcaaatccg tygaaatgca ccacgaacaa 420
ttggctgaag gtgtcccagg tgacaatgtt ggtttcaacg ttaagaacgt ttctgttaaa 480
gaaattagaa gaggtaacgt ttgtggtgac tccaagaacg atccaccaaa gggttgtgac 540
tctttcaacg ctcaagttat tgtcttgaac cacccaggtc aaatytctgc tggttactct 600
ccagtcttgg attgtcacac tgctcatatt gcttgtaaat tcgacacctt ggttgaaaag 660
attgacagaa gaactggtaa gaaattggaa gaaaatccaa aattcgtcaa atccggtgat 720
gctgctattg tcaagatggt tccaaccaaa cca 753

<210> 125
<211> 814
<212> DNA
<213> Corynebacterium accolens

<400> 125
cggcgctatc ctggttgttg ctgcaaccga tggcccgatg ccgcagaccc gcgagcacgt 60
tctgcttgct cgccaggttg gcgttcctta catcctcgtt gcactgaaca agtgcgacat 120

ggttgatgat gaggaaatca tcgagctcgt ggagatggag atctccgagc tgctcgcaga 180
gcaggactac gatgaggaag ctcctatcgt tcacatctcc gctctgaagg cactcgaggg 240
tgacgagaag tgggtacagt ccatcgttga cctgatggat gcctgcgaca actccatccc 300
tgatccggag cgcgctaccg atcagccgtt cttgatgcct atcgaggaca tcttcaccat 360
taccggccgc ggtaccgttg ttaccggccg tgttgagcgt ggtcgtctga acgtcaacga 420
ggacgttgag atcatcggta tccaggagaa gtcccagaac accaccgtta ccggtatcga 480
gatgttccgc aagatgatgg actacaccga ggctggcgac aactgtggtc tgcttctgcg 540
tggtaccaag cgtgaggacg ttgagcgtgg ccaggttgtt atcaagccgg gcgcttacac 600
ccctcacacc aagttcgagg gttccgtcta cgtcctgaag aaggaagagg gcggccgcca 660
caccccgytc atgaacaact accgtcctca gttctacttc cgcaccaccg acgttaccgg 720
tgttgtgaac ctgcctgagg gcaccgagat ggttatgcct ggcgacaacg ttgagatgtc 780
tgttgagctc atccagcctg ttgctatgga cgag 814

<210> 126
<211> 814
<212> DNA
<213> Corynebacterium diphtheriae

<400> 126
cggcgcaatc ctcgttgttg ctgccaccga cggcccaatg cctcagaccc gtgagcacgt 60
tctgctcgct cgccaggtcg gcgttcctta catcctcgtt gctctgaaca agtgcgacat 120
ggttgatgat gaggaaatca tcgagctcgt cgagatggag atccrtgagc tgctcgctga 180
gcaggattac gacgaagagg ctccaatcat ccacatctcc gcactgaagg ctcttgaggg 240
cgacgagaag tggacccagt ccatcatcga cctcatgcag gcttgckatg attccatccc 300
agacccagag cgtgagaccg acaagccatt cctcatgcct atcgaggaca tcttcaccat 360
caccggccgc ggtaccgttg ttaccggccg tgttgagcgt ggctccctga aggtcaacga 420
ggacgtcgag atcatcggta tccgcgagaa kgctaccacc accaccgtta ccggtatcga 480
gatgttccgt aagcttctcg actacaccga ggctggcgac aactgtggtc tgcttctccg 540
tggcgttaag cgcgaagacg ttgagcgtgg ccaggttgtt gttaagccag gcgcttacac 600
ccctcacacc gagttcgagg gctctgtcta cgttctgtcc aaggacgagg gtggccgcca 660
caccccattc ttcgacaact accgcccaca gttctacttc cgcaccaccg acgttaccgg 720
tgttgtgaag cttcctgagg gcaccgagat ggtcatgcct ggcgacaacg tcgacatgtc 780
cgtcaccctg atccagcctg tcgctatgga tgag 814

<210> 127
<211> 814
<212> DNA
<213> Corynebacterium genitalium

<400> 127
cggcgccatc ctggttgttg ctgcaaccga tggcccgatg ccgcagaccc gtgagcacgt 60
tctgctggct cgccaggttg gcgttccgta catcctagtt gcactgaaca agtgcgacat 120
ggttgatgat gaggagctgc tggagctcgt cgagatggag gtccgcgagc tgctggctga 180
gcaggacttc gacgaggaag cacctgttgt tcacatctcc gcactgaagg ccctggaggg 240
cgacgagaag tgggctaagc agatcctgga gctcatggag gcttgcgaca actccatccc 300
ggatccggag cgcgagaccg acaagccgtt cctgatgccg gttgrggaca tcttcaccat 360

taccggccgc ggtaccgttg ttaccggccg tgttgagcgt ggcgtcctga acctgaacga 420
cgaggtcgag atcctgggca tccgcgagaa gtccaccaag accaccgtta cctccatcga 480
gatgttcaac aagctgctgg acaccgcaga ggctggcgac aacgccgcac tgctgctgcg 540
tggcctgaag cgcgaagatg ttgagcgtgg tcagatcgtt gctaagccgg gcgagtacac 600
cccgcacacc gagttcgagg gctccgtcta cgttctgtcc aaggacgagg gtggccgcca 660
cacccgttc ttcgacaact accgtccgca gttctatttc cgcaccaccg acgttaccgg 720
tgttgtgaag ctgccggagg gcaccgagat ggttatgccg ggcgacaacg ttgacatgtc 780
cgtcaccctg atccagccgg ttgctatgga cgag 814

<210> 128
<211> 814
<212> DNA
<213> Corynebacterium jeikeium

<400> 128
cggcgccatc ctggttgttg ccgcaaccga tggcccgatg ccgcagaccc gcgagcacgt 60
tctgctggcy cgccaggttg gcgttccgta catcctggtt gcactgaaca agtgtgacat 120
ggttgacgat gaggagctgc tggagctcgt cgagatggag gtccgcgagc tgctggctga 180
gcaggacttc gacgaggaag ctccggttgt tcacatctcc gcactgaagg ccctggaggg 240
cgacgagaag tgggctaacc agattctcga gctgatgcag gcttgcgacg agtctatccc 300
ggatccggag cgcgagaccg acaagccgtt cctgatgccg gttgwggaca tcttcaccat 360
taccggtcgc ggtaccgttg ttaccggccg tgttgagcgt ggcatcctga acctgaacga 420
cgaggttgag atcctgggta tccgcgagaa gtcccagaag accaccgtta cctccatcga 480
gatgttcaac aagctgctgg acaccgcaga ggctggcrac aacgctgcac tgctgctgcg 540
tggtctgaag cgcgaggacg ttgagcgtgg ccagatcatc gctaagccgg gcgagtacac 600
cccgcacacc gagttcgagg gctccgtcta cgttctgtcc aaggacgagg gcggccgcca 660
caccccgttc ttcgacaact accgtccgca gttctacttc cgcaccaccg acgttaccgg 720
tgttgtgaag ctgcctgagg gcaccgagat ggttatgccg ggcgacaacg tygacatgtc 780
cgtcaccctg atccagccgg ttgctatgga cgag 814

<210> 129
<211> 748
<212> DNA
<213> Corynebacterium pseudodiphtheriticum

<400> 129
cggcgctatc ttggttgttg cagctaccga cggcccaatg ccacagactc gcgagcacgt 60
tctgctggct cgccaggttg gcgttcctta catcctggtt gcactaaaca agtgcgacat 120
ggttgacgac gaggaaatcc tcgagctcgt cgagatggag atccgcgaat tgctggctga 180
ccaggaattc gacgaagaag ctccaatcgt tcacatctcc gcagtcggcg ccttggaagg 240
cgaagagagg tgggttaacg ccatcgttga actgatggat gcttgtgacg agtcgatccc 300
tgatccagac cgtgctaccg acaagccatt cctgatgcct atcgaggaca tcttcaccat 360
taccggtcgt ggcaccgttg ttacgggtcg tgttgagcgt ggttccctga aggtcaacga 420
agaagtcgag atcatcggca tcaaggaaaa gtcccagaag accaccatca ccggtatcga 480
aatgttccgc aagatgctgg actacaccga ggccggcgac aacgctggtc tgctgcttcg 540
cggtaccaag cgtgaagacg ttgagcgtgg acaggttatc gttgctccag gtgcttacag 600

cacccacaag aagttcgaag gttccgtcta cgttctttcc aaggacgagg gcggccgcca 660
caccccgttc ttcgacaact accgtcctca gttctacttc cgcaccaccg acgttaccgg 720
tgttgttacc ctgcctgagg gcaccgag 748

<210> 130
<211> 813
<212> DNA
<213> Corynebacterium striatum

<400> 130
ggcgctatct tggttgttgc tgcaaccgat ggcccgrtgc cgcagacccg cgagcacgtt 60
cttctggctc gccaggttgg cgttccttac atcctcgttg cactgaacaa gtgcgacatg 120
gttgacgacg aggaaattat cgagctcgtc gagatggaga tccgcgaact gctcgcagag 180
caggactacg atgaggaagc tccgatcgtt cacatctctg ctctgaaggc tcttgagggc 240
grcgagaagt gggtacaggc tatcgttgac ctgatgcagg cttgcgatga ctccatcccg 300
gatccggagc gcgagctgga caagccgttc ctgatgccaa tcgaggacat cttcaccatc 360
accggccgcg gtaccgttgt tactggccgt gttgagcgtg gctccctgaa cgtcaacgag 420
gacgttgaga tcatcggtat ccaggacarg tccatctcca ccaccgttac cggtatcgag 480
atgytccgca agatgatgga ctacaccgag gctggcgaca actgtggtct gcttctgcgt 540
ggtaccaagc gtgaagaggt tgagcgcggc caggttgtta ttaagccggg cgcttacacc 600
cctcacaccc agttcgaggg ttccgtctac gtcctgaaga aggaagaggg cggccgccac 660
accccgttca tggacaacta ccgtccgcag ttctacttcc gcaccaccga cgttaccggc 720
gtcatcaagc tgcctgaggg caccgagatg gttatgcctg gcgacaacgt cgagatgtcy 780
gtcgagctga tccagccggt cgctatggac gag 813

<210> 131
<211> 817
<212> DNA
<213> Enterococcus avium

<400> 131
cggagctatc ttagtagtat ctgctgctga tggccctatg cctcaaactc gtgaacacat 60
cttgttatct cgtaacgttg gtgttcctta catcgttgta ttcttaaaca aaatggatat 120
ggttgacgat gaagaattac ttgaattagt tgaaatggaa gttcgtgact tattaactga 180
atacgacttc ccaggcgacg acactccagt tatcgcaggt tcagcgttga aagctttaga 240
aggcgacgct tcatacgaag aaaaaatctt agaattaatg gctgctgttg acgaatatat 300
cccaacacca gttcgtgata ctgacaaacc attcatgatg ccagtcgaag acgtattctc 360
aatcactggt cgtggtactg ttgcaactgg tcgtgttgaa cgtggacaag ttcgcgttgg 420
tgacgaagtt gaaatcgtag gtatcgctga cgaaactgct aaaacaactg ttacaggtgt 480
tgaaatgttc cgtaaattgt tagactacgc tgaagcaggt gacaacatcg gtgctttgtt 540
acgtggtgtt gcacgtgaag atatccaacg tggacaagta ttggctaaac cagcttcaat 600
cactccacat acaaaattct ctgcagaagt ttatgttcta actaaagaag aaggtggacg 660
tcatactcca ttcttcacta actaccgtcc tcagttctac ttccgtacaa ctgacgtaac 720
tggtgtagtt gatctaccag aaggtactga aatggtwatg cctggggata acgtaactat 780
ggaagttgaa ttgatycacc caatygcggt agaagac 817

<210> 132
<211> 817
<212> DNA
<213> Enterococcus faecalis

<400> 132
cggagctatc ttagtagttt ctgctgctga tggtcctatg cctcaaacac gtgaacatat 60
cttattatca cgtaacgttg gtgtaccata catcgttgta ttcttaaaca aaatggatat 120
ggttgatgac gaagaattat tagaattagt agaaatggaa gttcgtgact tattatcaga 180
atacgatttc ccaggcgatg atgttccagt tatcgcaggt tctgctttga aagctttaga 240
aggcgacgag tcttatgaag aaaaaatctt agaattaatg gctgcagttg acgaatatat 300
cccaactcca gaacgtgata ctgacaaacc attcatgatg ccagtcgaag acgtattctc 360
aatcactgga cgtggtactg ttgctacagg acgtgttgaa cgtggtgaag ttcgcgttgg 420
tgacgaagtt gaaatcgttg gtattaaaga cgaaacatct aaaacaacyg ttacaggtgt 480
tgaaatgttc cgtaaattat tagactacgc tgaagcaggc gacaacmtcg gtgctttatt 540
acgtggtgta gcacgtgaag atatcgaacg tggacaagta ttagctaaac cagctacaat 600
cactccacac acaaaattca aagctgaagt atacgtatta tcaaaagaag aaggcggacg 660
tcacactcca ttcttcacta actaccgtcc tcaattctac ttccgtacaa cagacgttac 720
tggtgttgta gaattgccag aaggtactga aatggtaatg cctggtgata acgttgctat 780
ggacgttgaa ttaattcacc caatcgctat cgaagac 817

<210> 133
<211> 774
<212> DNA
<213> Enterococcus faecium

<400> 133
cggagctatc ttggtagttt ctgctgctga cggcccaatg cctcaaactc gtgaacacat 60
cctattgtct cgtcaagttg gtgttcctta catcgttgta ttcttgaaca aagtagacat 120
ggttgatgac gaagaattac tagaattagt tgaaatggaa gttcgtgacc tattaacaga 180
atacraattc cctggtgrcg atgttcctgt agttgctgga tcagctttga aagctctaga 240
aggcgacgct tcatacgaag aaaaaattct tgaattaatg gctgcagttg acgaatacat 300
cccaactcca gaacgtgaca acgacaaacc attcatgatg ccagttgaag acgtgttctc 360
aattactgga cgtggtactg ttgctacagg tcgtgttgaa cgtggacaag ttcgcgttgg 420
tgacgaagtt gaagttgttg gtattgctga agaaacttca aaaacaacag ttactggtgt 480
tgaaatgttc cgtaaattgt tagacyacgc tgaagctgga gacracattg gtgctttact 540
acgtggtgtt gcacgtgaag acatccaacg tggacaagtt ttagctaaac caggtacaat 600
cacacctcrt acaaaattct ctgcagaagt atacgtgttg acaaaagaag aaggtggacg 660
tcatactcca ttcttcacta actaccgtcc acaattctac ttccgtacaa ctgacgtaac 720
aggtgttgtt gaattaccag aaggaactga aatggtcatg cccggtgaca acgt 774

<210> 134
<211> 809
<212> DNA
<213> Enterococcus gallinarum

<400> 134
cggtgcgatc ttagtagtat ctgctgctga cggtcctatg cctcaaactc gtgaacacat 60
cttgttatca cgtaacgttg gcgtaccata catcgttgtt ttcttgaaca aaatggatat 120
ggttgaygac gaagaattgc tagaattagt tgaaatggaa gttcgtgacc tattgtctga 180
atatgacttc ccaggcgacg atgttcctgt aatcgccggt tctgctttga aagctcttga 240
aggagatcct tcatacgaag aaaaaatcat ggaattgatg gctgcagttg acgaatacgt 300
tccaactcca gaacgtgata ctgacaaacc attcatgatg ccagtcgaag acgtattctc 360
aatcactgga cgtggtactg ttgctacagg ccgtgttgaa cgtggacaag ttcgcgttgg 420
tgatgaagta gaaatcgttg gtattgctga cgaaactgct aaaacaactg taacaggtgt 480
tgaaatgttc cgtaaattgt tagactatgc tgaagcaggg gataacattg gtgcattgct 540
acgtggggtt gctcgtgaag acatccaacg tggacaagta ttggctaaag ctggtacaat 600
cacacctcat acaaaattca aagctgaagt ttatgttttg acaaaagaag aaggtggacg 660
tcacactcca ttcttcacta actaccgtcc tcagttctac ttccgtacaa ctgacgtaac 720
tggtgttgtt gaattaccag aaggaactga aatggtgatg cctggcgaca acgtgaccat 780
cgacgttgaa ttgatrcacc caatcgctc 809

<210> 135
<211> 823
<212> DNA
<213> Gardnerella vaginalis

<400> 135
tggcgcaatc ctcgtggttg ctgctaccga cggtccaatg gctcagaccc gtgaacacgt 60
cttgcttgct aagcaggtcg gcgttccaaa aattcttgtt gctttgaaca agtgcgatat 120
ggttgacgac gaagagctta tcgatctcgt tgaagaagag gtccgtgacc tcctcgaaga 180
aaacggcttc gatcgcgatt gcccagtcyt ccgtacttcc gcttacggcg ctttgcatga 240
tgacgctcca gaccacgaca agtgggtaga gaccgtcaag gaactcatga aggctgttga 300
cgagtacatc ccaaccccaa ctcacgatct tgacaagcca ttcttgatgc caatcgaaga 360
tgtgttcacc atctccggtc gtggtyccgt tgtcaccggt cgtgttgagc gtggtaagct 420
cccaatcaac accccagttg agatcgttgg tttgcgcgat acccagacca ccaccgtcac 480
ctctatcgag accttccaca agcagatgga tgaggcagag gctggcgata acactggtct 540
tcttctccgc ggtatcaacc gtaccgacgt tgagcgtggt caggttgtgg ctgctccagg 600
ttctgtgact ccacacacca agttcgaagg cgaagtttac gtcttgacca aggacgaagg 660
tggccgtcac tcgccattct tctccaacta ccgtccacag ttctacttcc gtaccaccga 720
tgttactggc gttatcacct tgccagacgg catcgaaatg gttcagccag gcgatcacgc 780
aaccttcact gttgagttga tccaggctat cgcaatggaa gag 823

<210> 136
<211> 817
<212> DNA
<213> Listeria innocua

<400> 136
cggagctatc ttagtagtat ctgctgctga tggcccaatg ccacaaactc gtgaacatat 60
cttactttca cgtcaagttg gtgttccata catcgttgta ttcatgaaca aatgtgacat 120

ggttgacgat gaagaattac tagaattagt tgaaatggaa attcgtgatc tattaactga 180
atatgaattc cctggcgatg acattcctgt aatcaaaggt tcagctctta aagcacttca 240
aggtgaagct gactgggaag ctaaaattga cgagttaatg gaagctgtag attcttacat 300
tccaactcca gaacgtgata ctgacaaacc attcatgatg ccagttgagg atgtattctc 360
aatcactggt cgtggaacag ttgcaactgg acgtgttgaa cgtggacaag ttaaagttgg 420
tgacgaagta gaagttatcg gtattgaaga agaaagcaaa aaagtagtag taactggagt 480
agaaatgttc cgtaaattac tagactacgc tgaagctggc gacaacattg gcgcacttct 540
acgtggtgtt gctcgtgaag atatccaacg tggtcaagta ttagctaaac caggttcgat 600
tactccacac actaacttca aagctgaaac ttatgtttta actaaagaag aaggtggacg 660
tcacactcca ttcttcaaca actaccgccc acaattctat ttccgtacta ctgacgtaac 720
tggtattgtt acacttccag aaggtactga aatggtaatg cctggtgata acattgagct 780
tgcagttgaa ctaattgcac caatcgctat cgaagac 817

<210> 137
<211> 818
<212> DNA
<213> Listeria ivanovii

<400> 137
cggagctatc ttagtagtat ctgctgctga tggtccaatg ccacaaactc gtgaacatat 60
tcttactttc acgtcaagtt ggtgttccat acatcgttgt attcatgaac aaatgtgaca 120
tggttgacga tgaagaatta cttgaattag ttgaaatgga aattcgtgat ctattaactg 180
aatatgaatt ccctggcgac gacattcctg taatcaaagg ttcagctctt aaagcacttc 240
aaggtgaagc tgattgggaa gctaaaattg acgagttaat ggaagctgta gattcttaca 300
ttccaactcc agaacgtgat actgacaaac cattcatgat gccagttgag gatgtattct 360
caatcactgg tcgtggaaca gttgcaactg gacgtgttga acgtggacaa gttaaagttg 420
gtgacgaagt agaagttatc ggtattgaag aagaaagcaa aaaagtagta gtaactggag 480
tagaaatgtt ccgtaaatta ctagactacg ctgaagctgg cgacaacatt ggcgcacttc 540
tacgtggtgt tgctcgtgaa gatatccaac gtggtcaagt attagctaaa ccaggttcga 600
ttactccaca tactaacttc aaagctgaaa cttatgtttt aactaaagaa gaaggtggac 660
gtcatactcc attcttcaac aactaccgcc cacaattcta tttccgtact actgacgtaa 720
ctggtattgt tacacttcca gaaggtactg aaatggtaat gcctggtgat aacattgagc 780
ttgcagttga actaattgca ccaatcgcta tcgaagac 818

<210> 138
<211> 817
<212> DNA
<213> Listeria monocytogenes

<400> 138
cggagctatc ttagtagtat ctgctgctga tggcccaatg ccacaaactc gtgaacatat 60
cttactttca cgtcaagttg gtgttccata catcgttgta ttcatgaaca aatgtgacat 120
ggttgacgat gaagaattac tagaattagt tgaaatggaa attcgtgatc tattaactga 180
atatgaattc cctggcgatg acattcctgt aatcaaaggt tcagctctta aagcacttca 240
aggtgaagct gactgggaag ctaaaattga cgagttaatg gaagctgtag attcttacat 300
tccaactccw gaacgtgata ctgacaaacc attcatgatg ccagttgagg atgtattctc 360

aatcactggt cgtggaacag ttgcaactgg acgtgttgaa cgtggacaag ttaaagttgg 420
tgacgaagta gaagttatcg gtatcgaaga agaaagcaaa aaagtagtag taactggagt 480
agaaatgttc cgtaaattac tagactacgc tgaagctggc gacaacattg gcgcacttct 540
acgtggtgtt gctcgtgaag atatccaacr tggtcaagta ttagctaaac caggttcgat 600
tactccacac actaacttca aagctgaaac ttatgtttta actaaagaag aaggtggacg 660
tcacactcca ttcttcaaca actaccgccc acaattctat ttccgtacta ctgacgtaac 720
tggtattgtt acacttccag aaggtactga aatggtaayg cctggtgata acattgagct 780
tgcagttgaa ctaattgcac caatcgctat cgaagac 817

<210> 139
<211> 817
<212> DNA
<213> Listeria seeligeri

<400> 139
cggagctatc ttagtagtat ctgctgctga tggcccaatg ccacaaactc gtgaacatat 60
cttactttca cgtcaagttg gtgttccata catcgttgta ttcatgaaca aatgtgacat 120
ggttgacgat gaagaattac ttgaattagt tgaaatggaa attcgtgatc tattaactga 180
atatgaattc cctggtgatg acattcctgt aatcaaaggt tcagctctta aagcacttca 240
aggtgaagct gactgggaag ctaaaattga cgagttaatg gaagctgtag attcttacat 300
tccaactcca gaacgtgata ctgacaaacc attcatgatg ccagttgagg atgtattctc 360
aatcactggt cgtggaactg ttgcaactgg acgtgttgaa cgtggacaag ttaaagttgg 420
tgacgaagta gaagttatcg gtattgaaga agaaagcaaa aaagtaatag taactggagt 480
agaaatgttc cgtaaattac tagactacgc tgaagctggc gacaacattg gcgcacttct 540
acgtggtgtt gctcgtgaag atatccaacg tggtcaagta ttagctaaac caggttcgat 600
tactccacat actaacttca aagctgaaac ttatgtttta actaaagaag aaggtggacg 660
tcacactcca ttcttcaaca actaccgccc acaattctat ttccgtacta ctgacgtaac 720
tggtattgtt acacttccag aaggtactga aatggtaatg cctggtgata acattgagct 780
tgcagttgaa ctaattgcac caatcgctat cgaagac 817

<210> 140
<211> 814
<212> DNA
<213> Staphylococcus aureus

<400> 140
cggtggtatc ttagtagtat ctgctgctga cggtccaatg ccacaaactc gtgaacacat 60
tcttttatca cgtaacgttg gtgtaccagc attagtagta ttcttaaaca aagttgacat 120
ggttgacgat gaagaattat tagaattagt agaaatggaa gttcgtgact tattaagcga 180
atatgacttc ccaggtgacg atgtacctgt aatcgctggt tcagcattar aagctttaga 240
aggcgatgct caatacgaag aaaaaatctt agaattartg gaagctgtag atacttacat 300
tccaactcca gaacgtgatt ctgacaaacc attcatgatg ccagttgagg acgtattctc 360
aatcactggt cgtggtactg ttgctacagg ccgtgttgaa cgtggtcaaa tcaaagttgg 420
tgaagaagtt gaaatcatcg gtttacatga cacatctaaa acaactgtta caggtgttga 480
aatgttccgt aaattattag actacgctga agctggtgac aacattggtg cattattacg 540
tggtgttgct cgtgaagacg tacaacgtgg tcaagtatta gctgctcctg gttcaattac 600

accacatact gaattcaaag cagaagtata cgtattatca aaagacgaag gtggacgtca 660
cactccattc ttctcaaact atcgtccaca attctatttc cgtactactg acgtaactgg 720
tgttgttcac ttaccagaag gtactgaaat ggtaatgcct ggtgataacg ttgaaatgac 780
agtagaatta atcgctccaa tcgcgattga agac 814

<210> 141
<211> 814
<212> DNA
<213> Staphylococcus epidermidis

<400> 141
cggcggtatc ttagttgtat ctgctgctga cggtccaatg ccacaaactc gtgaacacat 60
cttattatca cgtaacgttg gtgtaccagc attagttgta ttcttaaaca aagttgacat 120
ggtagacgac gaagaattat tagaattagt tgaaatggaa gttcgtgact tattaagcga 180
atatgacttc ccaggtgacg atgtacctgt aatcgctggt tctgcattaa aagcattaga 240
aggcgatgct gaatacgaac aaaaaatctt agacttaatg caagcagttg atgattacat 300
tccaactcca gaacgtgatt ctgacaaacc attcatgatg ccagttgagg acgtattctc 360
aatcactggt cgtggtactg ttgctacagg ccgtgttgaa cgtggtcaaa tcaaagtwgg 420
tgaagaagtt gaaatcatcg gtatgcacga aacttctaaa acaactgtta ctggtgtaga 480
aatgttccgt aaattattag actacgctga agctggtgac aacatcggtg ctttattacg 540
tggtgttgca cgtgaagacg tacaacgtgg tcaagtatta gctgctcctg gttctattac 600
accacacaca aaattcaaag ctgaagtata cgtattatct aaagatgaag gtggacgtca 660
cactccattc ttcactaact atcgcccaca attctatttc crtactactg acgtaactgg 720
tgttgtaaac ttaccagaag gtacagaaat ggttatgcct ggcgacaacg ttgaaatgac 780
agttgaatta atcgctccaa tcgctatcga agac 814

<210> 142
<211> 817
<212> DNA
<213> Staphylococcus saprophyticus

<400> 142
cggagctatc ttagtagtat ctgctgctga tggcccaatg ccacaaactc gtgaacacat 60
tcttttatca cgtracgttg gtgytccagc attagttgta ttcttaaaca aagttgacat 120
ggttgacgay gaagaattat tagaattrgt agaaatggaa gttcgtgrct tattaagcga 180
atatgacttc ccaggtgacg atgtacctgt aatctctggt tctgcattaa aagctttaga 240
aggcgacgct gactatgagc aaaaaatctt agacttaatg caagctgttg atgactycat 300
tccaacacca gaacgtgatt ctgacaaacc attcatgatg ccagttgagg acgtattctc 360
aatcactggt cgtggtactg ttgctacagg ccgtgttgaa cgtggtcaaa tcaaagtcgg 420
tgaagaaatc garatcatcg gtatgcaaga agaatcaagc aaaacaactg ttactggtgt 480
agaaatgttc cgtaaattat tagactacgc tgaagctggt gacaacattg gtgcattatt 540
acgtggtgtt tcacgtgatg atgtacaacg tggtcaagtt ttagctgctc ctggtactat 600
cacaccacat acaaaattca aagcggatgt ttacgtttta tctaaagatg aaggtggtcg 660
tcatacgcca ttcttcacta actaccgccc acaattctat ttccgtacta ctgacgtaac 720
tggtgttgtt aacttaccag aaggtactga aatggttatg cctggcgata acgttgaaat 780
ggatgttgaa ttaatttctc caatcgctat tgaagac 817

<210> 143
<211> 817
<212> DNA
<213> Staphylococcus simulans

<400> 143
cggcggtatc ttagtagtat ctgctgcaga tggtccaatg ccacaaactc gtgaacacat 60
cttattatca cgtaacgttg gtgtaccagc tttagttgta ttcttaaaca aagctgacat 120
ggttgacgac gaagaattat tagaattagt tgaaatggaa gttcgtgact tattatctga 180
atacgacttc cctggtgacg atgtaccagt tatcgttggt tctgcattaa aagctttaga 240
aggcgaccca gaatacgaac aaaaaatctt agacttaatg caagctgtag atgactacat 300
cccaactcca gaacgtgact ctgataaacc attcatgatg ccagttgagg acgtattctc 360
aatcactggt cgtggtactg tagcaacagg ccgtgttgaa cgtggtcaaa tcaaagtcgg 420
tgaagaagtt gaaatcatcg gtatcactga agaaagcaag aaaacaacag ttacaggtgt 480
agaaatgttc cgtaaattat tagactacgc tgaagctggt gacaacatcg gtgctttatt 540
acgtggtgtt gcacgtgaag acgtacaacg tggacaagta ttagcagctc ctggctctat 600
tactccacac acaaaattca aagctgatgt ttacgtttta tctaaagaag aaggtggacg 660
tcatactcca ttcttcacta actaccgccc acaattctac ttccgtacta ctgacgtaac 720
tggcgttgtt cacttaccag aaggtactga aatggttatg cctggcgata acgtagaaat 780
gactgttgaa ttgatcgctc caatcgcgat tgaagac 817

<210> 144
<211> 817
<212> DNA
<213> Streptococcus agalactiae

<400> 144
cggagctatc cttgtagttg cttcaactga tggaccaatg ccacaaactc gtgagcacat 60
ccttctttca cgtcaagttg gtgttaaaca ccttatcgta ttcatgaaca aagttgacct 120
tgttgatgat gaagaattgc ttgaattggt tgaaatggaa attcgtgacc ttctttcaga 180
atacgacttc ccaggtgatg accttccagt tatccaaggt tcagctctta aagcacttga 240
aggcgacgaa aaatacgaag acatcatcat ggaattgatg agcactgttg atgagtacat 300
tccagaacca gaacgtgata ctgacaaacc tttacttctt ccagttgaag atgtattctc 360
aatcactgga cgtggtacag ttgcttcagg acgtatcgac cgtggtactg ttcgtgtcaa 420
cgacgaagtt gaaatcgttg gtattaaaga agatatccaa aaagcagttg ttactggtgt 480
tgaaatgttc cgtaaacaac ttgacgaagg tcttgcaggg gacaacgttg gtgttcttct 540
tcgtggtgtt caacgtgatg aaatcgaacg tggtcaagtt cttgctaaac caggttcaat 600
caacccacac actaaattta aaggtgaagt ttacatcctt tctaaagaag aaggtggacg 660
tcatactcca ttcttcaaca actaccgtcc acaattctac ttccgtacaa ctgacgtaac 720
aggttcaatc gaacttccag caggaacaga aatggttatg cctggtgata acgttactat 780
cgaagttgaa ttgattcacc caatcgccgt agaacaa 817

<210> 145
<211> 817

<212> DNA
<213> Streptococcus pneumoniae

<400> 145
cggagctatc cttgtagtag cttcaactga cggaccaatg ccacaaactc gtgagcacat 60
ccttctttca cgtcaggttg gtgttaaaca ccttatcgtc ttcatgaaca aagttgactt 120
ggttgacgac gaagaattgc ttgaattggt tgaaatggaa atccgtgacc tattgtcaga 180
atacgacttc ccaggtgacg atcttccagt tatccaaggt tcagcactta aagctcttga 240
aggtgactct aaatacgaag acatcgttat ggaattgatg aacacagttg atgagtatat 300
cccagaacca gaacgtgaca ctgacaaacc attgcttctt ccagtcgagg acgtattctc 360
aatcactgga cgtggtacag ttgcttcagg acgtatcgac cgtggtatcg ttaaagtcaa 420
cgacgaaatc gaaatcgttg gtatcaaaga agaaactcra aaagcagttg ttactggtgt 480
tgaaatgttc cgtaaacaac ttgacgaagg tcttgctgga gataacgtag gtgtccttct 540
tcgtggtgtt caacgtgatg aaatcgaacg tggacaagtt atcgctaaac caggttcaat 600
caacccacac actaaattca aaggtgaagt ctacatcctt actaaagaag aaggtggacg 660
tcacactcca ttcttcaaca actaccgtcc acaattctac ttccgtacta ctgacgttac 720
aggttcaatc gaacttccag caggtactga aatggtaatg cctggtgata acgtgacaat 780
cgacgttgag ttgattcacc caatcgccgt agaacaa 817

<210> 146
<211> 817
<212> DNA
<213> Streptococcus salivarius

<400> 146
cggtgcgatc cttgtagtag catctactga cggaccaatg ccacaaactc gtgagcacat 60
ccttctttca cgtcaggttg gtgttaaaca ccttatcgtc ttcatgaaca aagttgactt 120
ggttgacgat gaagaattgc ttgaattggt tgaaatggaa atccgtgacc ttctttcaga 180
atacgatttc ccaggtgatg acattccagt tatccaaggt tcagctctta aagctcttga 240
aggtgattct aaatacgaag acatcatcat ggacttgatg aacactgttg acgaatacat 300
cccagaacca gaacgtgaca ctgacaaacc attgttgctt ccagtcgaag acgtattctc 360
aatcactggt cgtggtactg ttgcttcagg acgtatcgac cgtggtgttg ttcgtgtcaa 420
tgacgaagtt gaaatcgttg gtcttaaaga agacatccaa aaagcagttg ttactggtgt 480
tgaaatgttc cgtaaacaac ttgacgragg tattgccgga gataacgtcg gtgttcttct 540
tcgtggtatc caacgtgatg aaatcgaacg tggtcaagta ttggctgcac ctggttcaat 600
caacccacac actaaattca aaggtgaagt ttacatcctt tctaaagaag aaggtggacg 660
tcacactcca ttcttcaaca actaccgtcc acagttctac ttccgtacaa ctgacgtaac 720
aggttcaatc gaacttcctg caggtactga aatggttatg cctggtgata acgtgactat 780
cgacgttgag ttgatccacc caatcgccgt tgaacaa 817

<210> 147
<211> 897
<212> DNA
<213> Agrobacterium tumefaciens

<400> 147

aacatgatca ccggtgctgc cgagatggac ggcgcgatcc tggtttgctc ggctgccgac 60
ggcccgatgc cacagacccg cgagcacatc ctgcttgccc gtcaggtggg cgttccggcc 120
atcgtcgtgt tcctcaacaa ggtcgaccag gttgacgacg ccgagcttct cgagctcgtc 180
gagcttgaag ttcgcgaact tctgtcgtcc tacgacttcc cgggcgacga tatcccgatc 240
atcaagggtt cggcacttgc tgctcttgaa gattctgaca agaagatcgg tgaagacgcg 300
atccgcgagc tgatggctgc tgtcgacgcc tacatcccga cgcctgagcg tccgatcgac 360
cagccgttcc tgatgccgat cgaagacgtg ttctcgatct cgggtcgtgg tacggttgtg 420
acgggtcgcg ttgagcgcgg tatcgtcaag gttggtgaag aagtcgaaat cgtcggcatc 480
cgtccgacct cgaagacgac tgttaccggc gttgaaatgt tccgcaagct gctcgaccag 540
ggccaggccg gcgacaacat cggtgcactc gttcgcggcg ttacccgtga cggcgtcgag 600
cgtggtcaga tcctgtgcaa gccgggttcg gtcaagccgc acaagaagtt catggcagaa 660
gcctacatcc tgacgaagga agaaggcggc cgtcatacgc cgttcttcac gaactaccgt 720
ccgcagttct acttccgtac gactgacgtt accggtatcg tttcgcttcc tgaaggcacg 780
gaaatggtta tgcctggcga caacgtcact gttgaagtcg agctgatcgt tccgatcgcg 840
atggaagaaa agctgcgctt cgctatccgc gaaggcggcc gtaccgtcgg cgccggc 897

<210> 148
<211> 885
<212> DNA
<213> Bacillus subtilis

<400> 148
atgatcactg gtgctgcgca aatggacgga gctatccttg tagtatctgc tgctgatggc 60
ccaatgccac aaactcgtga gcacatcctt ctttctaaaa acgttggtgt accatacatc 120
gttgtattct taaacaaatg cgacatggta gacgacgaag agcttcttga actagttgaa 180
atggaagttc gcgatcttct tagcgaatac gacttccctg gtgatgatgt accagttgtt 240
aaaggttctg ctcttaaagc tcttgaagga gacgctgagt gggaagctaa aatcttcgaa 300
cttatggatg cggttgatga gtacatccca actccagaac gcgacactga aaaaccattc 360
atgatgccag ttgaggacgt attctcaatc actggtcgtg gtacagttgc tactggccgt 420
gtagaacgcg gacaagttaa agtcggtgac gaagttgaaa tcatcggtct tcaagaagag 480
aacaagaaaa caactgttac aggtgttgaa atgttccgta agcttcttga ttacgctgaa 540
gctggtgaca acattggtgc ccttcttcgc ggtgtatctc gtgaagaaat ccaacgtggt 600
caagtacttg ctaaaccagg tacaatcact ccacacagca aattcaaagc tgaagtttac 660
gttctttcta aagaagaggg tggacgtcat actccattct tctctaacta ccgtcctcag 720
ttctacttcc gtacaactga cgtaactggt atcatccatc ttccagaagg cgtagaaatg 780
gttatgcctg gagataacac tgaaatgaac gttgaactta tttctacaat cgctatcgaa 840
gaaggaactc gtttctctat tcgtgaaggc ggacgtactg ttggt 885

<210> 149
<211> 882
<212> DNA
<213> Bacteroides fragilis

<400> 149
atggttactg gtgctgctca gatggacggt gctatcattg tagttgctgc tactgatggt 60
ccgatgcctc agactcgtga gcacatcctt ttggctcgtc aggtaaacgt tccgaagctg 120

gttgtattca tgaacaagtg cgatatggtt gaagatgctg agatgttgga acttgttgaa 180
atggaaatga gagaattgct ttcattctat gatttcgacg gtgacaatac tccgatcatt 240
cagggttctg ctcttggtgc attgaacggc gtagaaaaat gggaagacaa agtaatggaa 300
ctgatggaag ctgttgatac ttggattcca ctgcctccgc gcgatgttga taaacctttc 360
ttgatgccgg tagaagacgt gttctctatc acaggtcgtg gtactgtagc tacaggtcgt 420
atcgaaactg gtgttatcca tgtaggtgat gaaatcgaaa tcctcggttt gggtgaagat 480
aagaaatcag ttgtaacagg tgttgaaatg ttccgcaaac ttctggatca gggtgaagct 540
ggtgacaacg taggtctgtt gcttcgtggt gttgacaaga acgaaatcaa acgtggtatg 600
gttctttgta aaccgggtca gattaaacct cactctaaat tcaaagcaga ggtttatatc 660
ctgaagaaag aagaaggtgg tcgtcacact ccattccata acaaatatcg tcctcagttc 720
tacctgcgta ctatggactg tacaggtgaa atcactcttc cggaaggaac tgaaatggta 780
atgccgggtg ataacgtaac tatcactgta gagttgatct atccggttgc actgaacatc 840
ggtcttcgtt tcgctatccg cgaaggtgga cgtacagtag gt 882

<210> 150
<211> 888
<212> DNA
<213> Borrelia burgdorferi

<400> 150
aatatgatta caggagcagc tcaaatggat gcagcgatac ttttagttgc tgctgatagt 60
ggtgctgagc ctcaaacaaa agagcatttg cttcttgctc aaagaatggg aataaagaaa 120
ataatagttt ttttaaataa attggactta gcagatcctg aacttgttga gcttgttgaa 180
gttgaagttt tagaacttgt tgaaaaatat ggcttttcag ctgatactcc aataatcaaa 240
ggttcagctt ttggggctat gtcaaatcca gaagatcctg aatctacaaa atgcgttaaa 300
gaacttcttg aatctatgga taattatttt gatcttccag aaagagatat tgacaagcca 360
tttttgcttg ctgttgaaga tgtattttct atttcaggaa gaggcactgt tgctactggg 420
cgtattgaaa gaggtattat taaagttggt caagaagttg aaatagttgg aattaaagaa 480
accagaaaaa ctactgttac tggtgttgaa atgttccaga aaattcttga gcaaggtcaa 540
gcaggggata atgttggtct tcttttgaga ggcgttgata aaaaagacat tgagaggggg 600
caagttttgt cagctccagg tacaattact ccacacaaga aatttaaagc ttcaatttat 660
tgtttgacta aagaagaagg cggtaggcac aagccatttt tcccagggta tagaccacag 720
ttctttttta gaacaaccga tgttactgga gttgttgctt tagagggcaa agaaatggtt 780
atgcctggtg ataatgttga tattattgtt gagctgatct cttcaatagc tatggataag 840
aatgtagaat ttgctgttcg agaaggtgga agaaccgttg cttcagga 888

<210> 151
<211> 894
<212> DNA
<213> Brevibacterium linens

<400> 151
aacatgatca ccggtgccgc tcagatggac ggtgcgatcc tcgtcgtcgc cgctaccgac 60
ggaccgatgc cccagacccg tgagcacgtg ctgctcgcgc gtcaggtcgg cgttccctac 120
atcgtcgtgg ctctgaacaa gtccgacatg gtcgatgacg aggagctcct cgagctcgtc 180
gaattcgagg tccgcgacct gctctcgagc caggacttcg acggagacaa cgctccggtc 240

attccggtgt ccgctctcaa ggcgctggaa ggcgacgaga agtgggtcaa gagcgttcag 300
gatctcatgg ctgccgtcga tgacaacgtt ccggagccgg agcgcgatgt cgacaagccg 360
ttcctcatgc ccgtcgagga cgtcttcacg atcaccggtc gtggaaccgt cgtcaccggt 420
cgtgtcgagc gcggcgtgct cctgcctaac gacgaaatcg aaatcgtcgg catcaaggag 480
aagtcgtcca agacgactgt caccgctatc gagatgttcc gcaagaccct gccggatgcc 540
cgtgcaggtg agaacgtcgg tctgctcctc cgcggcacca agcgcgagga tgttgagcgc 600
ggtcaggtca tcgtgaagcc gggttcgatc accccgcaca ccaagttcga ggctcaggtc 660
tacatcctga gcaaggacga gggcggacgt cacaacccgt tctactcgaa ctaccgtccg 720
cagttctact tccggaccac ggacgtcacc ggtgtcatca cgctgcccga gggcaccgag 780
atggtcatgc ccggcgacaa caccgatatg tcggtcgagc tcatccagcc gatcgctatg 840
gaggaccgcc tccgcttcgc aatccgcgaa ggtggccgca ccgtcggcgc cggt 894

<210> 152
<211> 888
<212> DNA
<213> Burkholderia cepacia

<400> 152
atgatcacgg gcgcagcgca gatggacggc gcgatcctgg tttgctcggc agcagacggc 60
ccgatgccgc aaacgcgtga gcacatcctg ctggcgcgtc aggttggtgt tccgtacatc 120
atcgtgttcc tgaacaagtg cgacagtgtg gacgacgctg aactgctcga gctggtcgag 180
atggaagttc gcgaactcct gtcgaagtac gacttcccgg gcgacgacac gccgatcgtg 240
aagggttcgg ccaagctggc gctggaaggc gacacgggcg agctgggcga agtggcgatc 300
atgagcctgg cagacgcgct ggacacgtac atcccgacgc cggagcgtgc agttgacggc 360
gcgttcctga tgccggtgga agacgtgttc tcgatctcgg gccgtggtac ggtggtgacg 420
ggtcgtgtcg agcgcggcat cgtgaaggtc ggcgaagaaa tcgaaatcgt cggtatcaag 480
ccgacggtga agacgacctg cacgggcgtt gaaatgttcc gcaagctgct ggaccaaggt 540
caggcaggcg acaacgtcgg tatcctgctg cgcggcacga agcgtgaaga cgtggagcgt 600
ggccaggttc tggcgaagcc gggttcgatc acgccgcaca cgcacttcac ggctgaagtg 660
tacgtgctga gcaaggacga aggcggccgt cacacgccgt tcttcaacaa ctaccgtccg 720
cagttctact tccgtacgac ggacgtgacg ggctcgatcg agctgccgaa ggacaaggaa 780
atggtgatgc cgggcgacaa cgtgtcgatc acggtgaagc tgattgctcc gatcgcgatg 840
gaagaaggtc tgcgcttcgc aatccgtgaa ggcggccgta cggtcggc 888

<210> 153
<211> 891
<212> DNA
<213> Chlamydia trachomatis

<400> 153
aacatgatca ccggtgcggc tcaaatggac ggggctattc tagtagtttc tgcaacagac 60
ggagctatgc ctcaaactaa agagcatatt cttttggcaa gacaagttgg ggttccttac 120
atcgttgttt ttctcaataa aattgacatg atttccgaag aagacgctga attggtcgac 180
ttggttgaga tggagttggc tgagcttctt gaagagaaag gatacaaagg gtgtccaatc 240
atcagaggtt ctgctctgaa agctttggaa ggagatgctg catacataga gaaagttcga 300
gagctaatgc aagccgtcga tgataatatc cctactccag aaagagaaat tgacaagcct 360

ttcttaatgc ctattgagga cgtgttctct atctccggac gaggaactgt agtaactgga 420
cgtattgagc gtggaattgt taaagtttcc gataaagttc agttggtcgg tcttagagat 480
actaaagaaa cgattgttac tggggttgaa atgttcagaa aagaactccc agaaggtcgt 540
gcaggagaga acgttggatt gctcctcaga ggtattggta agaacgatgt ggaaagagga 600
atggttgttt gcttgccaaa cagtgttaaa cctcatacac agtttaagtg tgctgtttac 660
gttctgcaaa aagaagaagg tggacgacat aagcctttct tcacaggata tagacctcaa 720
ttcttcttcc gtacaacaga cgttacaggt gtggtaactc tgcctgaggg agttgagatg 780
gtcatgcctg gggataacgt tgagtttgaa gtgcaattga ttagccctgt ggctttagaa 840
gaaggtatga gatttgcgat tcgtgaaggt ggtcgtacaa tcggtgctgg a 891

<210> 154
<211> 891
<212> DNA
<213> Escherichia coli

<400> 154
aacatgatca ccggtgctgc gcagatggac ggcgcgatcc tggtagttgc tgcgactgac 60
ggcccgatgc cgcagactcg tgagcacatc ctgctgggtc gtcaggtagg cgttccgtac 120
atcatcgtgt tcctgaacaa atgcgacatg gttgatgacg aagagctgct ggaactggtt 180
gaaatggaag ttcgtgaact tctgtctcag tacgacttcc cgggcgacga cactccgatc 240
gttcgtggtt ctgctctgaa agcgctggaa ggcgacgcag agtgggaagc gaaaatcctg 300
gaactggctg gcttcctgga ttcttacatt ccggaaccag agcgtgcgat tgacaagccg 360
ttcctgctgc cgatcgaaga cgtattctcc atctccggtc gtggtaccgt tgttaccggt 420
cgtgtagaac gcggtatcat caaagttggt gaagaagttg aaatcgttgg tatcaaagag 480
actcagaagt ctacctgtac tggcgttgaa atgttccgca aactgctgga cgaaggccgt 540
gctggtgaga acgtaggtgt tctgctgcgt ggtatcaaac gtgaagaaat cgaacgtggt 600
caggtactgg ctaagccggg caccatcaag ccgcacacca agttcgaatc tgaagtgtac 660
attctgtcca aagatgaagg cggccgtcat actccgttct tcaaaggcta ccgtccgcag 720
ttctacttcc gtactactga cgtgactggt accatcgaac tgccggaagg cgtagagatg 780
gtaatgccgg gcgacaacat caaaatggtt gttaccctga tccacccgat cgcgatggac 840
gacggtctgc gtttcgcaat ccgtgaaggc ggccgtaccg ttggcgcggg c 891

<210> 155
<211> 891
<212> DNA
<213> Fibrobacter succinogenes

<400> 155
aacatggtga ctggtgctgc tcagatggac ggcgctatcc tcgttgttgc cgctactgac 60
ggtccgatgc cgcagactcg cgaacacatc cttctcgctc accaggttgg cgtgccgaag 120
atcgtcgtgt tcatgaacaa gtgcgacatg gttgacgatg ctgaaattct cgacctcgtc 180
gaaatggaag ttcgcgaact cctctccaag tatgacttcg acggtgacaa caccccgatc 240
atccgtggtt ccgctctcaa ggccctcgaa ggcgatccgg aataccagga caaggtcatg 300
gaactcatga acgcttgcga cgaatacatc ccgctcccgc agcgcgatac cgacaagccg 360
ttcctcatgc cgatcgaaga cgtgttcacg attactggcc gcggcactgt cgctactggc 420
cgtatcgaac gcggtgtcgt tcgcttgaac gacaaggttg aacgtatcgg tctcggtgaa 480

accaccgaat acgtcatcac cggtgttgaa atgttccgta agctcctcga cgacgctcag 540
gcaggtgaca acgttggtct cctcctccgt ggtgctgaaa agaaggacat cgtccgtggc 600
atggttctcg cagctccgaa gtctgtcact ccgcacaccg aatttaaggc tgaaatctac 660
gttctcacga aggacgaagg tggccgtcac acgccgttca tgaatggcta ccgtccgcag 720
ttctacttcc gcaccaccga cgttactggt acgatccagc tcccggaagg tgtcgaaatg 780
gttactccgg gtgacacggt cacgatccac gtgaacctca tcgctccgat cgctatggaa 840
aagcagctcc gcttcgctat ccgtgaaggt ggacgtactg ttggtgctgg c 891

<210> 156
<211> 894
<212> DNA
<213> Flavobacterium ferrugineum

<400> 156
aacatgatca ccggtgctgc ccagatggac ggtgctatct tagttgtggc tgcatcagac 60
ggtcctatgc ctcaaacaaa agaacacatc ctgcttgctg cccaggtagg tgtacctaaa 120
atggttgtgt ttctgaataa agttgacctc gttgacgacg aagagctcct ggagctggtt 180
gagatcgagg ttcgcgaaga actgactaaa cgcggtttcg acggcgacaa cactccaatc 240
atcaaaggtt ccgctacagg cgccctcgct ggtgaagaaa agtgggttaa agaaattgaa 300
aacctgatgg acgctgttga cagctacatc ccactgcctc ctcgtccggt tgatctgccg 360
ttcctgatga gcgtagagga cgtattctct atcactggtc gtggtactgt tgctaccggt 420
cgtatcgagc gtggccgtat caaagttggt gagcctgttg agatcgtagg tctgcaggag 480
tctcccctga actctaccgt tacaggtgtt gagatgttcc gcaaactcct cgacgaaggt 540
gaagctggtg ataacgccgg tctcctcctc cgtggtgttg aaaaaacaca gatccgtcgc 600
ggtatggtaa tcgttaaacc cggttccatc actccgcaca cggacttcaa aggcgaagtt 660
tacgtactga gcaaagacga aggtggccgt cacactccat tcttcaacaa ataccgtcct 720
caattctact tccgtacaac tgacgttaca ggtgaagtag aactgaacgc aggaacagaa 780
atggttatgc ctggtgataa caccaacctg accgttaaac tgatccaacc gatcgctatg 840
gaaaaaggtc tgaaattcgc gatccgcgaa ggtggccgta ccgtaggtgc agga 894

<210> 157
<211> 891
<212> DNA
<213> Haemophilus influenzae

<400> 157
aatatgatta ctggtgcggc acaaatggat ggtgctattt tagtagtagc agcaacagat 60
ggtcctatgc cacaaactcg tgaacacatc ttattaggtc gccaagtagg tgttccatac 120
atcatcgtat tcttaaacaa atgcgacatg gtagatgacg aagagttatt agaattagtc 180
gaaatggaag ttcgtgaact tctatctcaa tatgacttcc caggtgacga tacaccaatc 240
gtacgtggtt cagcattaca agcgttaaac ggcgtagcag aatgggaaga aaaaatcctt 300
gagttagcaa accacttaga tacttacatc ccagaaccag aacgtgcgat tgaccaaccg 360
ttccttcttc caatcgaaga tgtgttctca atctcaggtc gtggtactgt agtaacaggt 420
cgtgtagaac gaggtattat ccgtacaggt gatgaagtag aaatcgtcgg tatcaaagat 480
acagcgaaaa ctactgtaac gggtgttgaa atgttccgta aattacttga cgaaggtcgt 540
gcaggtgaaa acatcggtgc attattacgt ggtaccaaac gtgaagaaat cgaacgtggt 600

caagtattag cgaaaccagg ttcaatcaca ccacacactg acttcgaatc agaagtgtac 660
gtattatcaa aagatgaagg tggtcgtcat actccattct tcaaaggtta ccgtccacaa 720
ttctatttcc gtacaacaga cgtgactggt acaatcgaat taccagaagg cgtggaaatg 780
gtaatgccag gcgataacat caagatgaca gtaagcttaa tccacccaat tgcgatggat 840
caaggtttac gtttcgcaat ccgtgaaggt ggccgtacag taggtgcagg c 891

<210> 158
<211> 906
<212> DNA
<213> Helicobacter pylori

<400> 158
aacatgatca ccggtgcggc gcaaatggac ggagcgattt tggttgtttc tgcagctgat 60
ggccctatgc ctcaaactag ggagcatatc ttattgtctc gtcaagtagg cgtgcctcac 120
atcgttgttt tcttaaacaa acaagacatg gtagatgacc aagaattgtt agaacttgta 180
gaaatggaag tgcgcgaatt gttgagcgcg tatgaatttc ctggcgatga cactcctatc 240
gtagcgggtt cagctttaag agctttagaa gaagcaaagg ctggtaatgt gggtgaatgg 300
ggtgaaaaag tgcttaaact tatggctgaa gtggatgcct atatccctac tccagaaaga 360
gacactgaaa aaactttctt gatgccggtt gaagatgtgt tctctattgc gggtagaggg 420
actgtggtta caggtaggat tgaaagaggc gtggtgaaag taggcgatga agtggaaatc 480
gttggtatca gacctacaca aaaaacgact gtaaccggtg tagaaatgtt taggaaagag 540
ttggaaaaag gtgaagccgg cgataatgtg ggcgtgcttt tgagaggaac taaaaaagaa 600
gaagtggaac gcggtatggt tctatgcaaa ccaggttcta tcactccgca caagaaattt 660
gagggagaaa tttatgtcct ttctaaagaa gaaggcggga gacacactcc attcttcacc 720
aattaccgcc cgcaattcta tgtgcgcaca actgatgtga ctggctctat caccttcct 780
gaaggcgtag aaatggttat gcctggcgat aatgtgaaaa tcactgtaga gttgattagc 840
cctgttgcgt tagagttggg aactaaattt gcgattcgtg aaggcggtag gaccgttggt 900
gctggt 906

<210> 159
<211> 891
<212> DNA
<213> Micrococcus luteus

<400> 159
aacatgatca ccggcgccgc tcagatggac ggcgcgatcc tcgtggtcgc cgctaccgac 60
ggcccgatgg cccagacccg tgagcacgtg ctcctggccc gccaggtcgg cgtgccggcc 120
ctgctcgtgg ccctgaacaa gtcggacatg gtggaggacg aggagctcct cgagcgtgtc 180
gagatggagg tccggcagct gctgtcctcc aggagcttcg acgtcgacga ggccccggtc 240
atccgcacct ccgctctgaa ggccctcgag ggcgaccccc agtgggtcaa gtccgtcgag 300
gacctcatgg atgccgtgga cgagtacatc ccggacccgg tgcgcgacaa ggacaagccg 360
ttcctgatgc cgatcgagga cgtcttcacg atcaccggcc gtggcaccgt ggtgaccggt 420
cgcgccgagc gcggcaccct gaagatcaac tccgaggtcg agatcgtcgg catccgcgac 480
gtgcagaaga ccactgtcac cggcatcgag atgttccaca agcagctcga cgaggcctgg 540
gccggcgaga actgcggtct gctcgtgcgc ggtctgaagc gcgacgacgt cgagcgcggc 600
caggtgctgg tggagccggg ctccatcacc ccgcacacca acttcgaggc gaacgtctac 660

atcctgtcca aggacgaggg tgggcgtcac accccgttct actcgaacta ccgcgcgcag 720
ttctacttcc gcaccaccga cgtcaccggc gtcatcacgc tgcccgaggg caccgagatg 780
gtcatgcccg gcgacaccac cgagatgtcg gtcgagctca tccagccgat cgccatggag 840
gagggcctcg gcttcgccat ccgcgagggt ggccgcaccg tgggctccgg c 891

<210> 160
<211> 891
<212> DNA
<213> Mycobacterium tuberculosis

<400> 160
aacatgatca ccggcgccgc gcagatggac ggtgcgatcc tggtggtcgc cgccaccgac 60
ggcccgatgc cccagacccg cgagcacgtt ctgctggcgc gtcaagtggg tgtgccctac 120
atcctggtag cgctgaacaa ggccgacgca gtggacgacg aggagctgct cgaactcgtc 180
gagatggagg tccgcgagct gctggctgcc caggaattcg acgaggacgc cccggttgtg 240
cgggtctcgg cgctcaaggc gctcgagggt gacgcgaagt gggttgcctc tgtcgaggaa 300
ctgatgaacg cggtcgacga gtcgattccg gacccggtcc gcgagaccga caagccgttc 360
ctgatgccgg tcgaggacgt cttcaccatt accggccgcg gaaccgtggt caccggacgt 420
gtggagcgcg gcgtgatcaa cgtgaacgag gaagttgaga tcgtcggcat tcgcccatcg 480
accaccaaga ccaccgtcac cggtgtggag atgttccgca agctgctcga ccagggccag 540
gcgggcgaca acgttggttt gctgctgcgg ggcgtcaagc gcgaggacgt cgagcgtggc 600
caggttgtca ccaagcccgg caccaccacg ccgcacaccg agttcgaagg ccaggtctac 660
atcctgtcca aggacgaggg cggccggcac acgccgttct tcaacaacta ccgtccgcag 720
ttctacttcc gcaccaccga cgtgaccggt gtggtgacac tgccggaggg caccgagatg 780
gtgatgcccg gtgacaacac caacatctcg gtgaagttga tccagcccgt cgccatggac 840
gaaggtctgc gtttcgcgat ccgcgagggt ggccgcaccg tgggcgccgg c 891

<210> 161
<211> 891
<212> DNA
<213> Mycoplasma genitalium

<400> 161
aatatgatca caggtgctgc acaaatggat ggagctattc tagttgtttc agcaactgat 60
agtgtgatgc cccaaacccg cgagcacatc ttacttgccc gccaagtagg ggttcctaaa 120
atggtagttt ttctaaacaa gtgtgatatt gctagtgatg aagaggtaca agaacttgtt 180
gctgaagaag tacgtgatct gttaacttcc tatggttttg atggtaagaa cactcctatt 240
atttatggct cagctttaaa agcattggaa ggtgatccaa agtgggaggc taagatccat 300
gatttgatta aagcagttga tgaatggatt ccaactccta cacgtgaagt agataaacct 360
ttcttattag caattgaaga tacgatgacc attactggta gaggtacagt tgttacagga 420
agagttgaaa gaggtgaact caaagtaggt caagaagttg aaattgttgg tttaaaacca 480
attagaaaag cagttgttac tggaattgaa atgttcaaaa aggaacttga ttcagcaatg 540
gctggtgaca atgctggggt attattacgt ggtgttgaac gtaaagaagt tgaaagaggt 600
caagttttag caaaaccagg ctctattaaa ccgcacaaga aatttaaagc tgagatctat 660
gctttaaaga aagaagaagg tggtagacac actggttttt taaacggtta ccgtcctcaa 720
ttctatttcc gtaccactga tgtaactggt tctattgctt tagctgaaaa tactgaaatg 780

gttctacctg gtgataatgc ttctattact gttgagttaa ttgctcctat cgcttgtgaa 840
aaaggtagta agttctcaat tcgtgaaggt ggtagaactg taggggcagg c 891

<210> 162
<211> 891
<212> DNA
<213> Neisseria gonorrhoeae

<400> 162
aacatgatta ccggcgccgc acaaatggac ggtgcaatcc tggtatgttc tgctgccgac 60
ggccctatgc cgcaaacccg cgaacacatc ctgctggccc gtcaagtagg cgtaccttac 120
atcatcgtgt tcatgaacaa atgcgacatg gtcgacgatg ccgagctgtt ccaactggtt 180
gaaatggaaa tccgcgacct gctgtccagc tacgacttcc ccggcgacga ctgcccgatc 240
gtacaaggtt ccgcactgaa agccttggaa ggcgatgccg cttacgaaga aaaaatcttc 300
gaactggcta ccgcattgga cagatacatc ccgactcccg agcgtgccgt ggacaaacca 360
ttcctgctgc ctatcgaaga cgtgttctcc atttccggcc gcggtaccgt agtcaccggc 420
cgtgtagagc gaggtatcat ccacgttggt gacgagattg aaatcgtcgg tctgaaagaa 480
acccaaaaaa ccacctgtac cggcgttgaa atgttccgca aactgctgga cgaaggtcag 540
gcgggcgaca acgtaggcgt attgctgcgc ggtaccaaac gtgaagacgt agaacgcggt 600
caggtattgg ccaaacgggg tactatcact cctcacacca agttcaaagc agaagtgtac 660
gtattgagca aagaagaggg cggcccccat accccgtttt tcgccaacta ccgtccccaa 720
ttctacttcc gtaccactga cgtaaccggc acgattactt tggaaaaagg tgtggaaatg 780
gtaatgccgg gtgagaacgt aaccattact gtagaactga ttgcgcctat cgctatggaa 840
gaaggtctgc gctttgcgat tcgcgaaggc ggccgtaccg tgggtgccgg c 891

<210> 163
<211> 891
<212> DNA
<213> Rickettsia prowazekii

<400> 163
aatatgataa ctggtgccgc tcagatggat ggtgctatat tagtagtttc tgctgctgat 60
ggtcctatgc ctcaaactag agaacatata ttactggcaa aacaggtagg tgtacctgct 120
atggtagtat ttttgaataa agtagatatg gtagatgatc ctgacctatt agaattagtt 180
gagatggaag taagagaatt attatcaaaa tatggtttcc ctggtaatga aatacctatt 240
attaaaggtt ctgcacttca agctttagaa ggaaaacctg aaggtgaaaa agctattaat 300
gagttaatga atgcagtaga tacgtatata cctcagccta tagagctaca agataaacct 360
tttttaatgc caatagagga tgtatttttct atttcaggca gaggtaccgt tgtaactggt 420
agagtggagt caggcataat taaggtgggt gaagaaattg aaatagtagg tctaaaaaat 480
acgcaaaaaa cgacttgtac aggtgtagaa atgttcagaa aattacttga tgaaggacaa 540
tctggagata atgtcggtat attactacgt ggtacaaaaa gagaagaagt agaaagagga 600
caagtacttg caaaacctgg gagcataaaa ccgcatgata aatttgaagc tgaagtgtat 660
gtgcttagta aagaggaagg tggacgtcat accccattta ctaatgatta tcgcccacag 720
ttctatttta gaacaacaga tgttaccggc acaataaaat tgccttctga taagcagatg 780
gttatgcctg gagataatgc tacttttca gtagaattaa ttaagccgat tgctatgcaa 840
gaagggttaa aattctctat acgtgaaggt ggtagaacag taggagccgg t 891

<210> 164
<211> 891
<212> DNA
<213> Salmonella typhimurium

<400> 164
aacatgatca ccggtgctgc tcagatggac ggcgcgatcc tggttgttgc tgcgactgac 60
ggcccgatgc cgcagacccg tgagcacatc ctgctgggtc gtcaggtagg cgttccgtac 120
atcatcgtgt tcctgaacaa atgcgacatg gttgatgacg aagagctgct ggaactggtt 180
gagatggaag ttcgcgaact gctgtctcag tacgacttcc cgggcgacga cactccgatc 240
gttcgtggtt ctgctctgaa agcgctggaa ggcgacgcag agtgggaagc gaaaatcatc 300
gaactggctg gcttcctgga ttcttatatt ccggaaccag agcgtgcgat tgacaagccg 360
ttcctgctgc cgatcgaaga cgtattctcc atctccggtc gtggtaccgt tgttaccggt 420
cgtgtagagc gcggtatcat caaagtgggc gaagaagttg aaatcgttgg tatcaaagag 480
actcagaagt ctacctgtac tggcgttgaa atgttccgca aactgctgga cgaaggccgt 540
gccggtgaga acgtaggtgt tctgctgcgt ggtatcaaac gtgaagaaat cgaacgtggt 600
caggtactgg ctaagccggg caccatcaag ccgcacacca agttcgaatc tgaagtgtac 660
attctgtcca aagatgaagg cggccgtcat actccgttct tcaaaggcta ccgtccgcag 720
ttctacttcc gtactactga cgtgactggt accatcgaac tgccggaagg cgtagagatg 780
gtaatgccgg gcgacaacat caaaatggtt gttaccctga tccacccgat cgcgatggac 840
gacggtctgc gtttcgcaat ccgtgaaggc ggccgtaccg ttggcgcggg c 891

<210> 165
<211> 881
<212> DNA
<213> Shewanella putida

<400> 165
atgatcactg gtgctgcaca gatggacggc gcgattctgg tagtcgcttc aacagacggt 60
ccaatgccac agactcgtga gcacatcctg ctttctcgtc aggttggcgt accattcatc 120
atcgtattca tgaacaaatg tgacatggta gatgacgaag agctgttaga gctagttgag 180
atggaagtgc gtgaactgtt atcagaatac gatttcccag gtgatgactt accggtaatc 240
caaggttcag ctctgaaagc gctagaaggc gagccagagt gggaagcaaa aatccttgaa 300
ttagcagcgg cgctggattc ttacattcca gaaccacaac gtgacatcga taagccgttc 360
ctactgccaa tcgaagacgt attctcaatt tcaggccgtg gtacagtagt aacaggtcgt 420
gttgagcgtg gtattgtacg cgtaggcgac gaagttgaaa tcgttggtgt acgtgcgaca 480
actaagacaa cgtgtactgg tgtagaaatg ttccgtaaac tgcttgacga aggtcgtgca 540
ggtgagaact gtggtatttt gttacgtggt actaagcgtg atgacgtaga acgtggtcaa 600
gtattagcga agccaggttc aatcaaccca cacactactt ttgaatcaga agtttacgta 660
ctgtcaaaag aagaaggtgg tcgtcacacg ccattcttca aaggctaccg tccacagttc 720
tacttccgta caactgacgt aaccggtact atcgaactgc cagaaggcgt agagatggta 780
atgccaggcg ataacatcaa gatggtagtg acactgattt gcccaatcgc gatggacgaa 840
ggtttacgct tcgcaatccg tgaaggcggt cgtacagtgg t 881

<210> 166
<211> 897
<212> DNA
<213> Stigmatella aurantiaca

<400> 166
aacatgatca cgggcgcggc gcagatggac ggagcgattc tggtggtgtc cgcggccgac 60
ggcccgatgc cccagacgcg tgagcacatc ctgctggcca ggcaggtggg cgtgccctac 120
atcgtcgtct tcctgaacaa ggtggacatg ctggacgatc cggagctgcg cgagctggtg 180
gagatggagg tgcgcgacct gctcaagaag tacgagttcc cgggcgacag catccccatc 240
atccctggca gcgcgctcaa ggcgctggag ggagacacca gcgacatcgg cgagggagcg 300
atcctgaagc tgatggcggc ggtggacgag tacatcccga cgccgcagcg tgcgacggac 360
aagccgttcc tgatgccggt ggaagacgtg ttctccatcg caggccgagg aacggtggcg 420
acgggccgag tggagcgcgg caagatcaag gtgggcgagg aagtggagat cgtggggatc 480
cgtccgacgc agaagacggt catcacgggg gtggagatgt tccgcaagct gctggacgag 540
ggcatggcgg gagacaacat cggagcgctg ctgcgaggcc tgaagcgcga ggacctggag 600
cgtgggcagg tgctggcgaa ctgggggagc atcaacccgc acacgaagtt caaggcgcag 660
gtgtacgtgc tgtcgaagga agagggaggg cggcacacgc cgttcttcaa gggataccgg 720
ccgcagttct acttccggac gacggacgtg accggaacgg tgaagctgcc ggacaacgtg 780
gagatggtga tgccgggaga caacatcgcc atcgaggtgg agctcattac tccggtcgcc 840
atggagaagg agctgccgtt cgccatccgt gagggtggcc gcacggtggg cgccggc 897

<210> 167
<211> 894
<212> DNA
<213> Streptococcus pyogenes

<400> 167
aacatgatca ctggtgccgc tcaaatggac ggagctatcc ttgtagttgc ttcaactgat 60
ggaccaatgc cacaaactcg tgagcacatc cttctttcac gtcaggttgg tgttaaacac 120
cttatcgtgt tcatgaacaa agttgacctt gttgatgacg aagagttgct tgaattagtt 180
gagatggaaa ttcgtgacct tctttcagaa tacgatttcc caggtgatga ccttccagtt 240
atccaaggtt cagctcttaa agctcttgaa ggcgacacta aatttgaaga catcatcatg 300
gaattgatgg atactgttga ttcatacatt ccagaaccag aacgcgacac tgacaaacca 360
ttgcttcttc cagtcgaaga cgtattctca attacaggtc gtggtacagt tgcttcagga 420
cgtatcgacc gtggtactgt tcgtgtcaac gacgaaatcg aaatcgttgg tatcaaagaa 480
gaaactaaaa aagctgttgt tactggtgtt gaaatgttcc gtaaacaact tgacgaaggt 540
cttgcaggag acaacgtagg tatccttctt cgtggtgttc aacgtgacga aatcgaacgt 600
ggtcaagtta ttgctaaacc aagttcaatc aacccacaca ctaaattcaa aggtgaagta 660
tatatccttt ctaaagacga aggtggacgt cacactccat tcttcaacaa ctaccgtcca 720
caattctact tccgtacaac tgacgtaaca ggttcaatcg aacttccagc aggtacagaa 780
atggttatgc ctggtgataa cgtgacaatc aacgttgagt tgatccaccc aatcgccgta 840
gaacaaggta ctactttctc aatccgtgaa ggtggacgta ctgttggttc aggt 894

<210> 168
<211> 897

<212> DNA
<213> Thiobacillus cuprinus

<400> 168
aacatgatca ccggtgcggc ccagatggac ggcgccatcc tggtcgtgtc cgccgccgac 60
ggccccatgc cccaaacccg cgagcacatc ctgctggcgc gtcaggtggg cgtgccctac 120
atcatcgtgt tcctcaacaa gtgcgacatg gtcgacgacg ccgagctgct cgaactcgtc 180
gagatggaag tgcgcgagct gctgtccaag tacgacttcc ccggtgacga cacccccatc 240
atcaagggct cggccaagct ggccctcgaa ggcgacaagg gcgaactggg cgaaggcgcc 300
attctcaagc tggccgaggc cctggacacc tacatcccca cgcccgagcg ggccgtcgac 360
ggcgcgttcc tcatgcccgt ggaagacgtg ttctccatct ccgggcgcgg cacggtggtc 420
accgggcgtg tggagcgcgg catcatcaag gtcggcgagg aaatcgagat tgtcggcctc 480
aagcccaccc tcaagaccac ctgcaccggc gtggaaatgt tcaggaagct gctcgaccag 540
ggccaggccg gcgacaacgt cggcatcttg ctgcgcggca ccaagcgcga ggaagtcgag 600
cgcggccagg tgctgtgcaa acccggctcg atcaagcccc acacccactt caccgccgag 660
gtgtacgtgc tgagcaagga cgagggcggc cgccacaccc ccttcttcaa caactaccgc 720
ccgcagttct acttccgcac caccgacgtc accggcgcca tcgaactgcc caaggacaag 780
gaaatggtca tgcccggcga taatgtgagc atcaccgtca agctcatcgc ccccatcgcc 840
atggaagaag gcctgcgctt cgccatccgc gaaggcggcc gcaccgtcgg cgccggc 897

<210> 169
<211> 894
<212> DNA
<213> Treponema pallidum

<400> 169
aatatgatca cgggtgctgc gcagatggac ggtggtattc tcgtcgtgtc tgcgcctgac 60
ggcgttatgc cacagacgaa ggagcatctt ctgctcgccc gtcaggttgg tgttccctcc 120
atcattgttt ttttgaacaa ggttgatttg gttgatgatc ctgagttgct agagctggtg 180
gaagaagagg tgcgtgatgc gcttgctgga tatgggtttt cgcgtgagac gcctatcgtc 240
aaggggtctg cgtttaaagc tctgcaggat ggcgcttccc cggaggatgc agcttgtatt 300
gaggaactgc ttgcggccat ggattcctac tttgaagacc cagtgcgtga cgacgcaaga 360
cctttcttgc tctctatcga ggatgtgtac actatttctg ggcgtggtac cgttgtcacg 420
gggcgcatcg aatgtggggt aattagtctg aatgaagagg tcgagatcgt cgggattaag 480
cccactaaga aaacagtggt tactggcatt gagatgttta ataagttgct tgatcaggga 540
attgcaggtg ataacgtggg gctgcttttg cgcggggtgg ataaaaaaga ggttgagcgc 600
ggtcaggtgc tttctaagcc cggttctatt aagccacaca ccaagtttga ggcgcagatc 660
tacgtgctct ctaaggaaga gggtggccgt cacagtcctt tttttcaagg ttatcgtccg 720
cagttttatt ttagaactac tgacattacc ggtacgattt ctcttcctga aggggtagac 780
atggtgaagc cgggggataa caccaagatt ataggtgagc tcatccaccc gatagctatg 840
gacaagggtc tgaagcttgc gattcgtgaa gggggggcgca ctattgcttc tggt 894

<210> 170
<211> 891
<212> DNA
<213> Ureaplasma urealyticum

<400> 170
aatatgatta caggggcagc acaaatggat ggagcaattt tagttattgc tgcatctgat 60
ggggttatgg ctcaaactaa agaacatatt ttattagcac gtcaagttgg tgttccaaaa 120
atcgttgttt tcttaaacaa atgtgatttc atgacagatc cagatatgca agatcttgtt 180
gaaatggaag ttcgtgaatt attatctaaa tatggatttg atggcgataa cacaccagtt 240
attcgtggtt caggtcttaa ggctttagaa ggagatccag tttgagaagc aaaaattgat 300
gaattaatgg acgcagttga ttcatgaatt ccattaccag aacgtagtac tgacaaacca 360
ttcttattag caattgaaga tgtattcaca atttcaggac gtggtacagt agtaactgga 420
cgtgttgaac gtggtgtatt aaaagttaat gatgaggttg aaattgttgg tctaaaagac 480
actcaaaaaa ctgttgttac aggaattgaa atgtttagaa aatcattaga tcaagctgaa 540
gctggtgata atgctggtat tttattacgt ggtattaaaa aagaagatgt tgaacgtggt 600
caagtacttg taaaaccagg atcaattaaa cctcaccgta cttttactgc taaagtttat 660
attcttaaaa aagaagaagg tggacgtcat acacctattg tttcaggata ccgtccacaa 720
ttctatttta gaacaacaga tgtaacaggt gctatttcat tacctgctgg tgttgatttg 780
gttatgccag gtgatgacgt tgaaatgact gtagaattaa ttgctccagt tgcgattgaa 840
gatggatcta aattctcaat ccgtgaaggt ggtaaaactg taggtcatgg t 891

<210> 171
<211> 909
<212> DNA
<213> Wolinella succinogenes

<400> 171
aacatgatta caggtgctgc tcaaatggat ggcgcgattc ttgttgtttc tgcggcggat 60
ggcccccatgc cccaaactag ggagcacatt cttctttctc gacaagtagg cgttccttac 120
atcgtggttt tcttgaacaa agaagatatg gttgatgacg ctgagcttct tgagcttgtt 180
gaaatggaag ttagagaact tcttagcaac tacgacttcc ctggagatga cactcctatc 240
gttgcaggtt ccgctcttaa agctcttgaa gaggctaacg accaggaaaa tgttggcgag 300
tggggcgaga aagtattgaa gcttatggct gaggttgacc gatatattcc tacgcctgag 360
cgagatgtgg ataagccttt ccttatgcct gttgaagacg tattctccat cgcgggtcgt 420
ggaaccgttg tgacaggaag aattgaaaga ggcgtggtta aagtcggtga cgaagtagaa 480
atcgttggta tccgaaacac acaaaaaaca accgtaactg gcgttgagat gttccgaaaa 540
gagctcgaca agggtgaggc gggtgacaac gttggtgttc ttttgagagg caccaagaaa 600
gaagatgttg agagaggtat ggttctttgt aaaataggtt ctatcactcc tcacactaac 660
tttgaaggtg aagtttacgt tctttccaaa gaggaaggcg gacgacacac tccattcttc 720
aatggatacc gacctcagtt ctatgttaga actacagacg ttaccggttc tatctctctt 780
cctgagggcg tagagatggt tatgcctggt gacaacgtta agatcaatgt tgagcttatc 840
gctcctgtag ccctcgaaga gggaacacga ttcgcgatcc gtgaaggtgg tcgaaccgtt 900
ggtgcgggt 909

<210> 172
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<220>
<221> modified_base
<222> (6)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (18)
<223> i

<400> 172
tartcngtra angcytcnac rcacat 26

<210> 173
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 173
tctttagcag aacaggatga a 21

<210> 174
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic DNA

<400> 174
gaataattcc atatcctccg 20